Acer AL1517
Service Guide

Service Guide Version and Revision

No.	Version	Release Date	Revision	TPV Model Name
1	1.0	May-31-2006	Initial release	T566KV5HKGAEAP

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Conventions

The following conventions are used in this manual:

Screen messages	Denotes actual messages that appear on screen.
NOTE	Gives bits and pieces of additional information related to the current topic.
WARNING	Alerts you to any damage that might result from doing or not doing specific actions.
CAUTION	Gives precautionary measures to avoid possible hardware or software problems.
IMPORTANT	Remind you to do specific actions relevant to the accomplishment of procedures.

Preface

Before using this information and the product it supports, please read the following general information.

1. This Service Guide provides you with all technical information relating to the BASIC CONFIGURATION decided for Acer's "global" product offering. To better fit local market requirements and enhance product competitiveness, your regional office may have decided to extend the functionality of a machine (e.g. add-on card, modem, or extra memory capability). These LOCALIZED FEATURES will NOT be covered in this generic service guide. In such cases, please contact your regional offices or the responsible personnel/channel to provide you with further technical details.

2. Please note WHEN ORDERING FRU PARTS, that you should check the most up-to-date information available on your regional web or channel. If, for whatever reason, a part number change is made, it will not be noted in the printed Service Guide. For ACER-AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code to those given in the FRU list of this printed Service Guide. You MUST use the list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

Warning: (For FCC Certified Models)

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experienced radio/TV technician for help.

Notice:

1. The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
2. Shielded interface cables and AC power cord, if any, must be used in order to comply with the emission limits.
3. The manufacturer is not responsible for any radio or TV interference caused by unauthorized modification to this equipment. It is the responsibility of the user to correct such interference.

As ENERGY STAR® Partner our company has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

Warning:

To prevent fire or shock hazard, do not expose the monitor to rain or moisture. Dangerous high voltages are present inside the monitor. Do not open the cabinet. Refer servicing to qualified personnel only.

Precautions

- Do not use the monitor near water, e.g. near a bathtub, washbowl, kitchen sink, laundry tub, swimming pool or in a wet basement.
- Do not place the monitor on an unstable trolley, stand, or table. If the monitor falls, it can injure a person and cause serious damage to the appliance. Use only a trolley or stand recommended by the manufacturer or sold with the monitor. If you mount the monitor on a wall or shelf, uses a mounting kit approved by the manufacturer and follow the kit instructions.
- Slots and openings in the back and bottom of the cabinet are provided for ventilation. To ensure reliable operation of the monitor and to protect it from overheating, be sure these openings are not blocked or covered. Do not place the monitor on a bed, sofa, rug, or similar surface. Do not place the monitor near or over a radiator or heat register. Do not place the monitor in a bookcase or cabinet unless proper ventilation is provided.
- The monitor should be operated only from the type of power source indicated on the label. If you are not sure of the type of power supplied to your home, consult your dealer or local power company.
- The monitor is equipped with a three-pronged grounded plug, a plug with a third (grounding) pin. This plug will fit only into a grounded power outlet as a safety feature. If your outlet does not accommodate the three-wire plug, have an electrician install the correct outlet, or use an adapter to ground the appliance safely. Do not defeat the safety purpose of the grounded plug.
- Unplug the unit during a lightning storm or when it will not be used for long periods of time. This will protect the monitor from damage due to power surges.
- Do not overload power strips and extension cords. Overloading can result in fire or electric shock.
- Never push any object into the slot on the monitor cabinet. It could short circuit parts causing a fire or electric shock. Never spill liquids on the monitor.
- Do not attempt to service the monitor yourself; opening or removing covers can expose you to dangerous voltages and other hazards. Please refer all servicing to qualified service personnel
- To ensure satisfactory operation, use the monitor only with UL listed computers which have appropriate configured receptacles marked between 100 - 240V AC, Min. 5A.
- The wall socket shall be installed near the equipment and shall be easily accessible.

Special Notes On LCD Monitors

The following symptoms are normal with LCD monitor and do not indicate a problem.

Notes

- Due to the nature of the fluorescent light, the screen may flicker during initial use. Turn off the Power Switch and then turn it on again to make sure the flicker disappears.
- You may find slightly uneven brightness on the screen depending on the desktop pattern you use.
- The LCD screen has effective pixels of 99.99% or more. It may include blemishes of 0.01% or less such as a missing pixel or a pixel lit all of the time.
- Due to the nature of the LCD screen, an afterimage of the previous screen may remain after switching the image, when the same image is displayed for hours. In this case, the screen is recovered slowly by changing the image or turning off the Power Switch for hours.

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Monitor Features

Chapter 1

Introduction

Scope

This specification defines the requirements for the 15” MICROPROCESSOR based Multi-mode supported high resolution color LCD monitor. This monitor can be directly connected to general 15 pin D-sub VGA connector. It also supports VESA DPMS power management and plug & play function. There is a build-in stereo audio amplifier with OSD control to drive a pair of speakers.

Description

The LCD monitor is designed with the latest LCD technology to provide a performance oriented product with no radiation. This will alleviate the growing health concerns. It is also a space saving design, allowing more desktop space, and comparing to the traditional CRT monitor, it consumes less power and gets less weight in addition MTBF target is 50k hours or more.

Chart of AL1517

Panel	SVA150XG04TB
Signal Interface	D-SUB
Sync Type	Separate / Compatible
Color Temp User Adjust	Support
DDC	VESA DDC2B
Speaker	Yes
Headphone Jack	Yes
Microphone Jack	No
USB Hub	Not support
Tilt / Swivel	Yes / No

Electrical Requirements

Standard Test Conditions

All tests shall be performed under the following conditions, unless otherwise specified.

Ambient light		225 lux
Viewing distance		40 cm in front of LCD panel
Warm up time	All specifications	30 minutes
	Fully functional	5 seconds
Measuring equipment		Chroma 7120 signal generator or equivalent, directly Connected to the monitor under test.
Control settings	User brightness control	Maximum (unless otherwise specified)
	User contrast control	Typical (unless otherwise specified)
	User red/white balance, Green/white balance and Blue/white balance control	In the center (unless otherwise specified)
Power input		100VAC or 264VAC
Ambient temperature		20±5℃
Analog input mode		1024x768/60Hz
Measurement systems		The units of measure stated in this document are listed below: 1 gamma = 1 nano tesla 1 tesla = 10,000 gauss cm = in x 2.54 lb = kg x 2.2 degrees F = [°C x 1.8] + 32 degrees C = [°F - 32]/1.8 u' = 4x/(-2x + 12y + 3) v' = 9y/(-2x + 12y + 3) x = (27u'/4)/[(9u'/2) - 12v' + 9] y = (3v')/[(9u'/2) - 12v' + 9] Nits = cd/(m2) = Ft-L x 3.426 lux = foot-candle x 10.76

LCD Monitor General Specification

Panel type	15 “ active matrix color TFT LCD
	SVA150XG04TB
Display size	304.128mm (W) × 228.96mm(H)
Pixel pitch	0.297mm(H) × 0.297mm(V)
Pixel	1024(H) × 768(V) Pixel
Contrast ratio	450:1(typ.)
Brightness	250 cd/m^2 (typ.)
Response time (Tr+Tf)	16ms
Display color	16.7M
Viewing angle (CR>=10)	H: 120 / V: 100 (typ.)
Pc interface	RGB Analog Interface
Signal connector	D-Sub 15pin
Interface frequency	Horizontal Frequency 30KHz----60KHz
	Vertical Frequency 55Hz ------75Hz
Dimensions	342(W)×352(H)×162(D) mm
Plug & play	VESA DDC2B
Power Input voltage	47-63HZ, 100 VAC to 264VAC ±10%
Power Consumption (Max.)	35 Watts

LCD Panel Specification

LCD Panel Model (SVA150XG04TB)

- Display Type active matrix color TFT LCD
- Pixel 1024(H)×768(V) Pixel
- Display Area 304.128mm (W) × 228.96mm(H)
- Pixel Pitch 0.297mm(H) × 0.297mm(V)
- Display Color 16.7M Colors
- Lamp Frequency 55KHz(max.)
- Lamp Current 7.5mArms (typ.)
- Weight 1000g (typ.)

Optical Specifications

Measuring Condition: Ta = 25° C(Room Temperature).

Parameter Note1		Condition	Symbol	min.	typ.	max.	Unit
Luminance		White at center R=0, L=0, U=0,D=0	L	200	250	-	cd/ m^2
Contrast ratio		White/Black at center R=0, L=0, U=0,D=0	CR	350	450	-	-
Luminance uniformity		-	LU	-	1.2	1.3	-
Chromaticity	White	X coordinate	Wx	0.283	0.313	0.343	-
		Y coordinate	Wy	0.299	0.329	0.359	-
	Red	X coordinate	Rx	-	0. 63	-	-
		Y coordinate	Ry	-	0.35		
	Green	X coordinate	Gx	-	0.30	-	-
		Y coordinate	Gy	-	0.59	-	-
	Blue	X coordinate	Bx	-	0.14	-	-
		Y coordinate	By	-	0.09	-	-
Color gamut		R=0, L=0, U=0,D=0	C	50	60	-	%
Response time		White to black	Ton	-	4	7	ms
		Black to white	Toff	-	12	18	ms
Viewing angle	Right	θU=0°, θD=0°,CR=10	θR	50	60	-	°
	Left	θU=0°, θD=0°,CR=10	θL	50	60	-	°
	Up	θR=0°, θL=0°,CR=10	θU	30	40	-	°
	Down	θR=0°, θL=0°,CR=10	θD	35	60	-	°

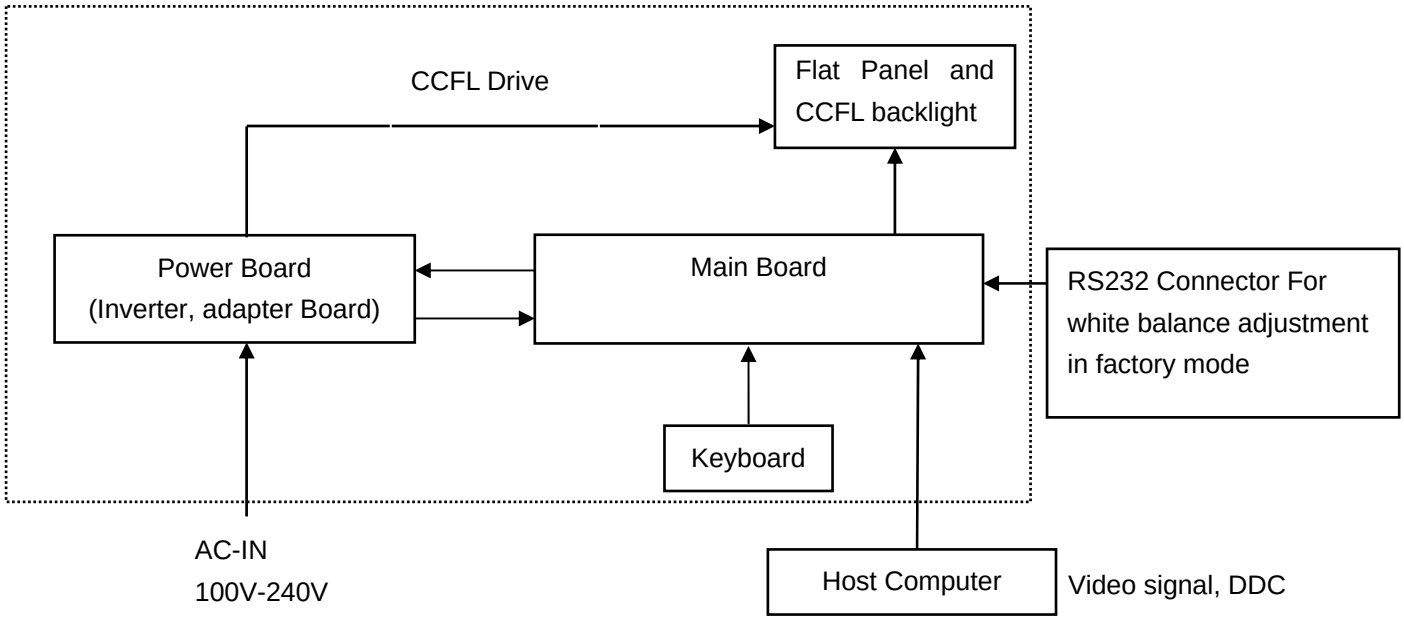
Supported Timing

.

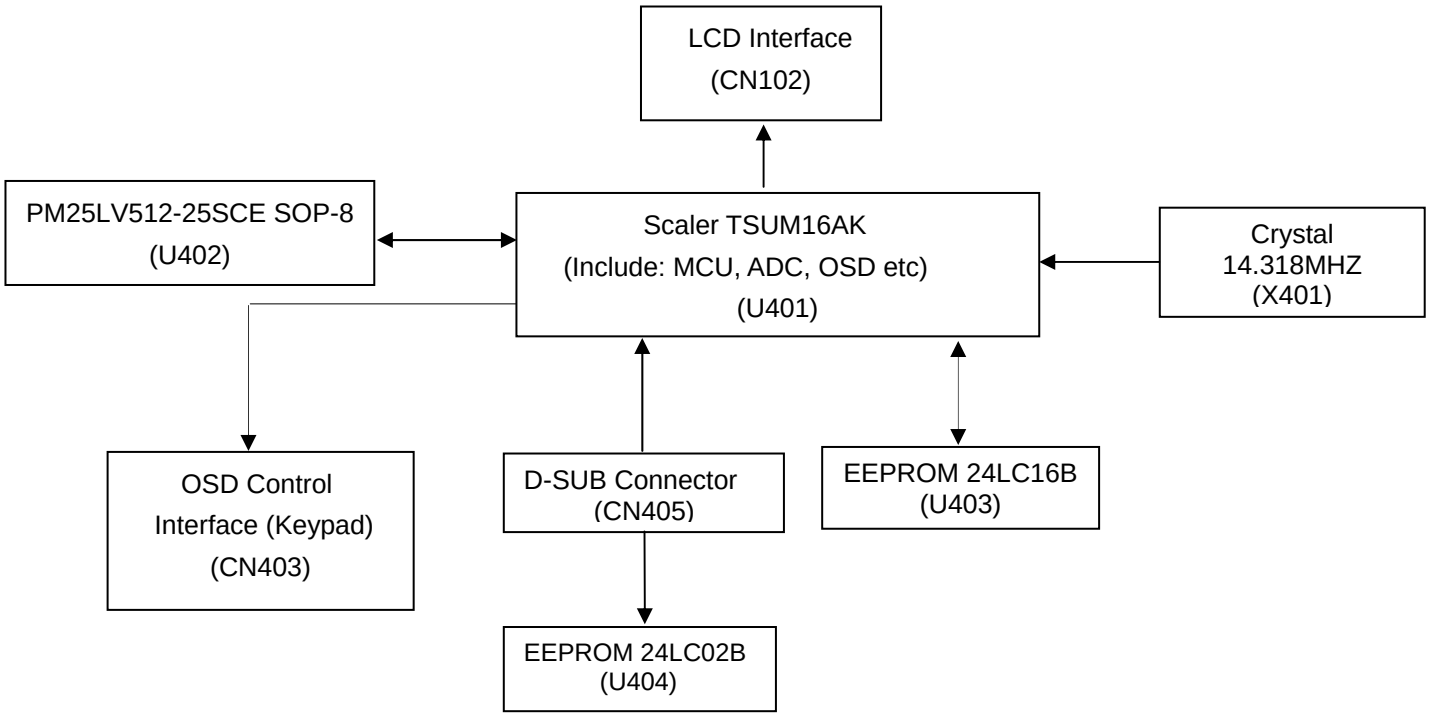
VIDEO MODE		RESOLUTION	HORIZONTAL FREQUENCY (kHz)	VERTICAL FREQUENCY (Hz)
VESA	VGA	640 × 480	31.469	59.940
		640 × 480	37.500	75.000
		640 × 480	37.861	72.809
	SVGA	800 × 600	35.156	56.250
		800 × 600	37.879	60.317
		800 × 600	46.875	75.000
	XGA	1024 × 768	48.363	60.004
		1024 × 768	56.476	70.069
		1024 × 768	60.023	75.029
IBM	DOS	720 × 400	31.469	70.087
MAC	XGA	1024 × 768	48.780	60.001
		1024 × 768	60.241	74.927

Monitor Block Diagram

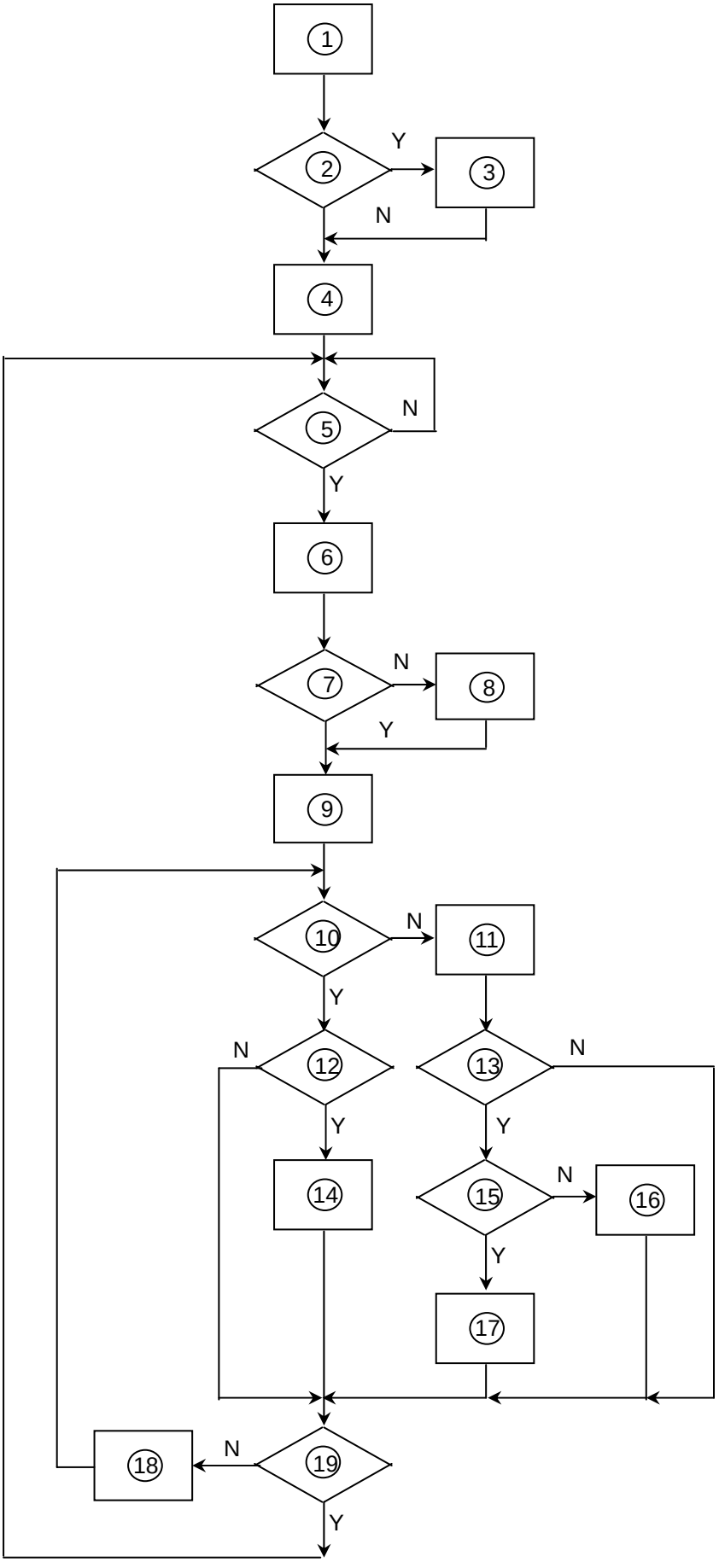
The LCD MONITOR will contain a main board; a power board, keypad board and which house the flat panel control logic, brightness control logic and DDC.
The Inverter board will drive the backlight of panel.



Main Board Diagram



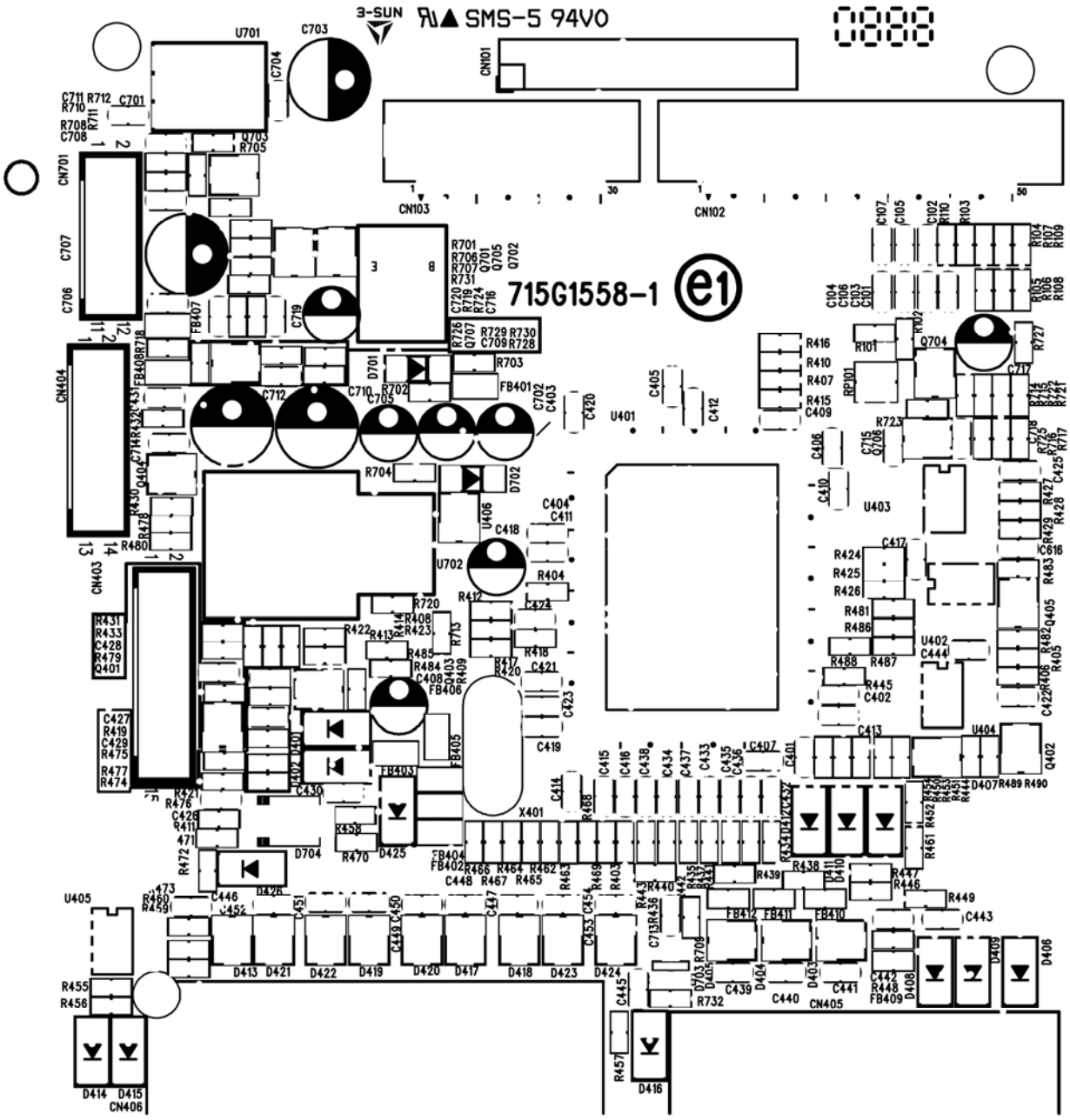
Software Flow Chart



Remark:

1) MCU initializes.
2) Is the EEPROM blank?
3) Program the EEPROM by default values.
4) Get the PWM value of brightness from EEPROM.
5) Is the power key pressed?
6) Clear all global flags.
7) Are the AUTO and SELECT keys pressed?
8) Enter factory mode.
9) Save the power key status into EEPROM. Turn on the LED and set it to green color. Scalar initializes.
10) In standby mode?
11) Update the lifetime of back light.
12) Check the analog port, are there any signals coming?
13) Does the scalar send out an interrupt request?
14) Wake up the scalar.
15) Are there any signals coming from analog port?
16) Display "No connection Check Signal Cable" message. And go into standby mode after the message disappears.
17) Program the scalar to be able to show the coming mode.
18) Process the OSD display.
19) Read the keyboard. Is the power key pressed?

Main Board Layout



Label	Part NO	Description
CN405	088G 35315F H	D-SUB 15PIN
CN101	033G803412D	WAFER
U401	056G 562100	TSUM16AK
X401	093G 22 53	CRYSTAL 14.318MHzHC-49US
U402	056G1133 79	PM25LV512-25SCE SOP-8
U403	056G113356A	24LC16B/SNG SOIC-8PIN
U404	056G113334A	24LC02B/SNG SOIC-8PIN
U702	056G 563 7	AIC1084-33PM
U701	056G 585 4	AIC1117-33CY

Front Bezel

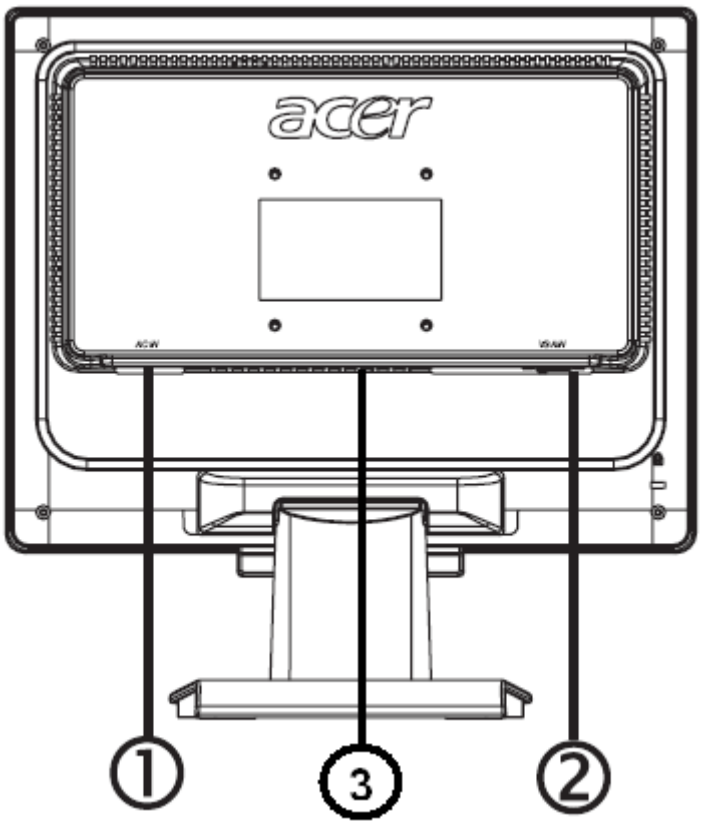
External Controls Front Panel Control

Item	Description	Item	Description
1.	Auto Adjust / Exit	4.	MENU/ENTER
2.	< Volume	5.	Power Indicator
3.	> Volume	6.	Power Button

Rear Bezel

Turn off your computer before performing the procedure below.

1. Plug the power cable of your monitor into a nearby outlet. Plug the other end of the power cord into the PC port.
2. Connect one end of the 15-pin VGA cable to the back of the monitor and connect the other end to the computer's D-Sub port.
3. Turn on your monitor and computer.



Item	Description
1.	Power Cable
2.	Signal Cable
3.	Audio Cable

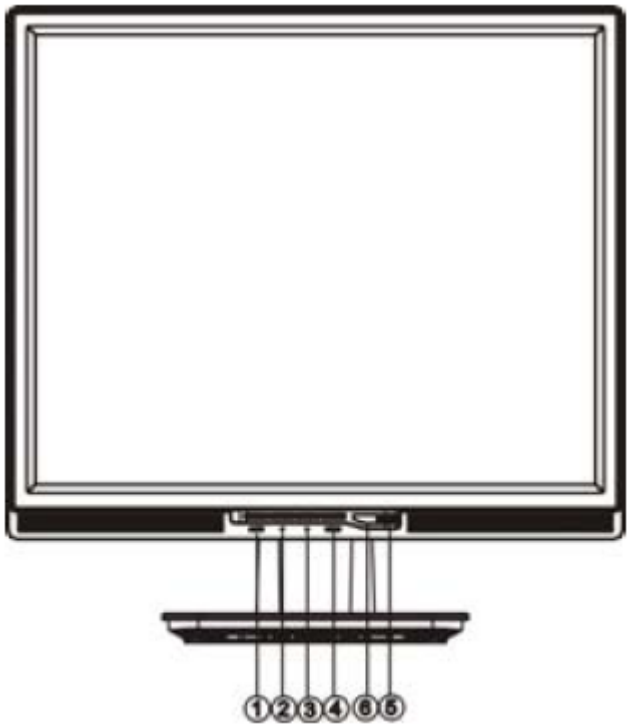
Operating Instructions

Chapter 2

Press the power button to turn the monitor on or off. The other control buttons are located at front panel of the monitor. By changing these settings, the picture can be adjusted to your personal preferences.

- The power cord should be connected.
- Connect the video cable from the monitor to the video card.
- Press the power button to turn on the monitor position. The power indicator will light up.

External Controls



Item	Description	Item	Description
1.	Auto Adjust / Exit	4.	MENU/ENTER
2.	< Volume	5.	Power Indicator
3.	> Volume	6.	Power Button

Front Panel Control

- **⏻/Power Button:**
  Press this button to turn the monitor ON or OFF. And display the monitor's state.

- **Power Indicator:**
  Green – Power on mode.
  Orange – Off mode.

- **Menu / Enter:**
  Activate OSD menu when OSD is OFF or activate/de-activate adjustment function when OSD is ON or Exit OSD menu when in Volume Adjust OSD status.

- **< / Volume:**
  Activates the volume control when the OSD is OFF or navigate through adjustment icons when OSD is ON or adjust a function when function is activated.

- **>/ Volume:**
  Activates the volume control when the OSD is OFF or navigate through adjustment icons when OSD is ON or adjust a function when function is activated.

- **Auto Adjust button / Exit:**
  1. When OSD menu is in active status, this button will act as EXIT-KEY (EXIT OSD menu).
  2. When OSD menu is in off status, press this button for 2 seconds to activate the Auto Adjustment function.
     The Auto Adjustment function is used to set the HPos, VPos, Clock and Focus.

NOTES

- Do not install the monitor in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, or excessive dust or mechanical vibration or shock.
- Save the original shipping carton and packing materials, as they will come in handy if you ever have to ship your monitor.
- For maximum protection, repackage your monitor as it was originally packed at the factory.
- To keep the monitor looking new, periodically clean it with a soft cloth. Stubborn stains may be removed with a cloth lightly dampened with a mild detergent solution. Never use strong solvents such as thinner, benzene, or abrasive cleaners, since these will damage the cabinet. As a safety precaution, always unplug the monitor before cleaning it.

Adjusting the Picture

a. How to Adjust a Setting

1. Press the MENU-button to activate the OSD window.
2. Press < or > to select the desired function.
3. Press the MENU-button to select the function that you want to adjust.
4. Press < or > to change the settings of the current function.
5. To exit and save, select the exit function. If you want to adjust any other function, repeat steps 2-4.

Analog-Only Mode

b. The Description For Control Function

Main Menu Icon	Sub Menu Icon	Sub Menu Item	Description
		Contrast	Adjusts the contrast between the foreground and background of the screen image.
		Brightness	Adjusts the background brightness of the screen image.
		Focus	Adjusts picture Focus
		Clock	Adjusts picture Clock
		H. Position	Adjust picture Focus
		V. Position	Adjust picture Clock
	N/A	Warm	Set the color temperature to warm white.
	N/A	Cool	Set the color temperature to cool white.
		User /Red	Adjusts Red/Green/Blue intensity.
		User/Green	

	B	User/Blue	
	N/A	language	Multi-language selection.
		H. Position	Adjust the horizontal position of the OSD.
		V. Position	Adjust the vertical position of the OSD.
		OSD Timeout	Adjust the OSD timeout.
(only Analog-input Model)	N/A	Auto Config	Auto Adjust the H/V Position, Focus and Clock of picture.
	N/A	Information	Show the resolution, H/V frequency and input port of current iput timing.
	N/A	Reset	Clear each old status of Auto-configuration and set the color temperature to Cool.
	N/A	Exit	Save user adjustment and OSD disappear.

OSD Message

a. Outline

b. The Description For OSD Message

Item	Description
Auto Config Please Wait	When Analog signal input, if User Press Hot-Key “Auto”, will show This message, and the monitor do the auto config function.
Input Not Supported	When the Hsync Frequency, Vsync Frequency or Resolution is out of The monitor support range will show this message. This message will Be flying.
Cable Not Connected	Analog-Only Model: When the video cable is not connected, will show This message. This message will be flying.
No Signal	Analog-Only Model: When the video cable is connected, but there is No active signal input, will show this message, then enter power saving.

Logo

When the monitor is power on, the LOGO will be showed in the center, and disappear slowly.

How To Optimize The DOS-Mode

Plug And Play

Plug & Play DDC2B Feature

This monitor is equipped with VESA DDC2B capabilities according to the VESA DDC STANDARD. It allows the monitor to inform the host system of its identity and, depending on the level of DDC used, communicate additional information about its display capabilities.

The DDC2B is a bi-directional data channel based on the I²C protocol. The host can request EDID information over the DDC2B channel.

This monitor will appear to be non-functional if there is no video input signal. In order for this monitor to operate properly, there must be a video input signal.

This monitor meets the Green monitor standards as set by the Video Electronics Standards Association (VESA) and/or the United States Environmental Protection Agency (EPA) and The Swedish Confederation Employees (NUTEK). This feature is designed to conserve electrical energy by reducing power consumption when there is no video-input signal present. When there is no video input signals this monitor, following a time-out period, will automatically switch to an OFF mode. This reduces the monitor's internal power supply consumption. After the video input signal is restored, full power is restored and the display is automatically redrawn. The appearance is similar to a "Screen Saver" feature except the display is completely off. The display is restored by pressing a key on the keyboard, or clicking the mouse.

Using The Right Power Cord

The accessory power cord for the Northern American region is the wallet plug with NEMA 5-15 style and is UL listed and CSA labeled. The voltage rating for the power cord shall be 125 volts AC.

Supplied with units intended for connection to power outlet of personal computer: Please use a cord set consisting of a minimum No. 18 AWG, type SJT or SVT three conductors flexible cord. One end terminates with a grounding type attachment plug, rated 10A, 250V, CEE-22 male configuration. The other end terminates with a molded-on type connector body, rated 10A, 250V, having standard CEE-22 female configuration.

Please note that power supply cord needs to use VDE 0602, 0625, 0821 approval power cord in European counties.

Machine Disassembly

Chapter 3

This chapter contains step-by-step procedures on how to assemble the monitor for maintenance.

Disassembly Procedure

Disassemble the base

1. Remove hinge cover. (Fig 1-2)
2. Remove four screws mark in red to remove stand base. (Fig 3-4)

Fig (1)

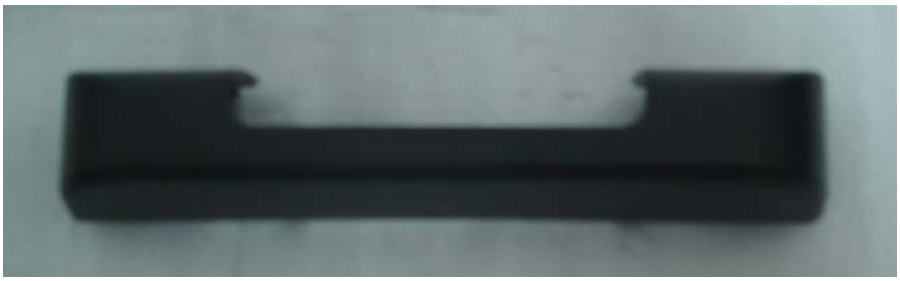


Fig (2)

Fig (3)

Fig (4)

Disassemble the rear bezel

1. Remove four screws mark in red to remove back cover. (Fig 5-7)

Fig (5)

Fig (6)

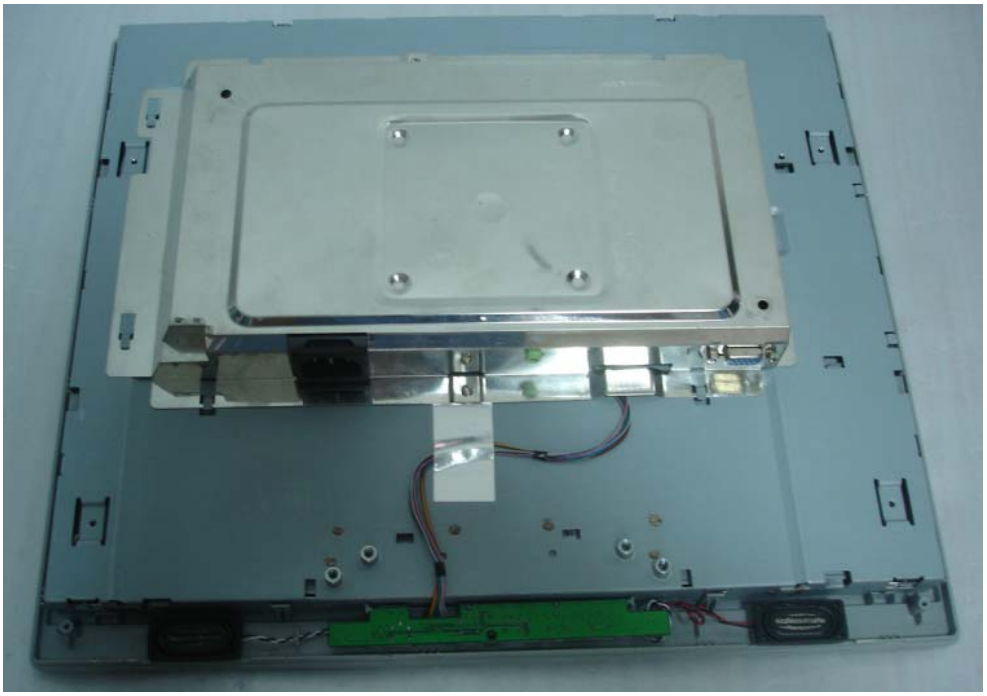


Fig (7)

Disassemble the shield

1. Remove four screws mark in red to remove the shield. (Fig 8-9)
   (Remove the shield as arrow direction).

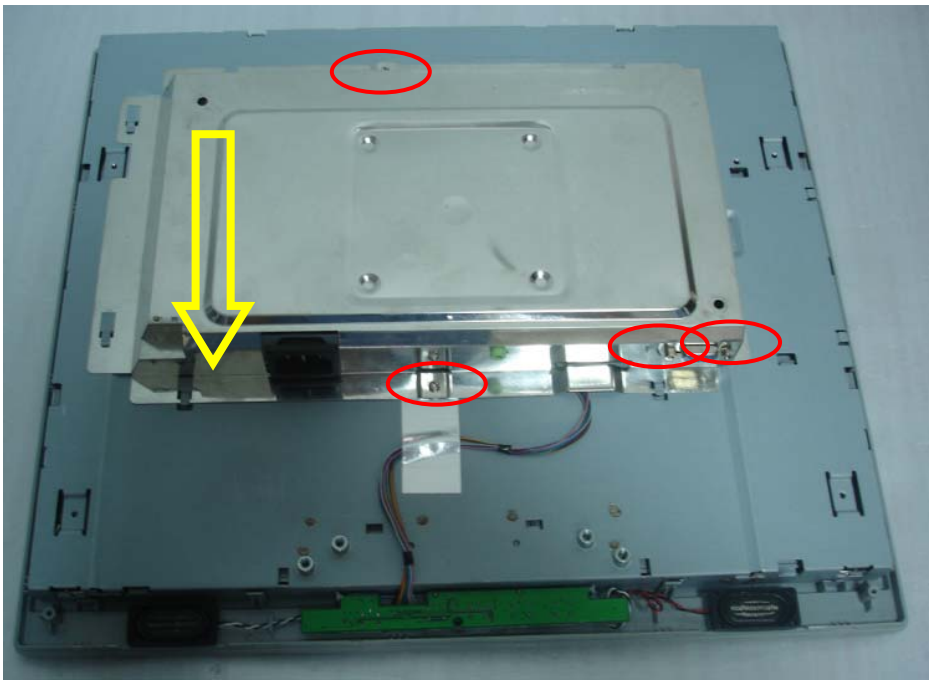


Fig (8)

Fig (9)

Disassemble the main board (Fig 10-12)

1. Remove three screws mark in red to remove main board.
2. Remove two screws mark in red to remove audio board.
3. Remove five screws mark in red and Remove AC-BKT with green to remove Power board.
4. Remove connector wire with main, audio and power board.

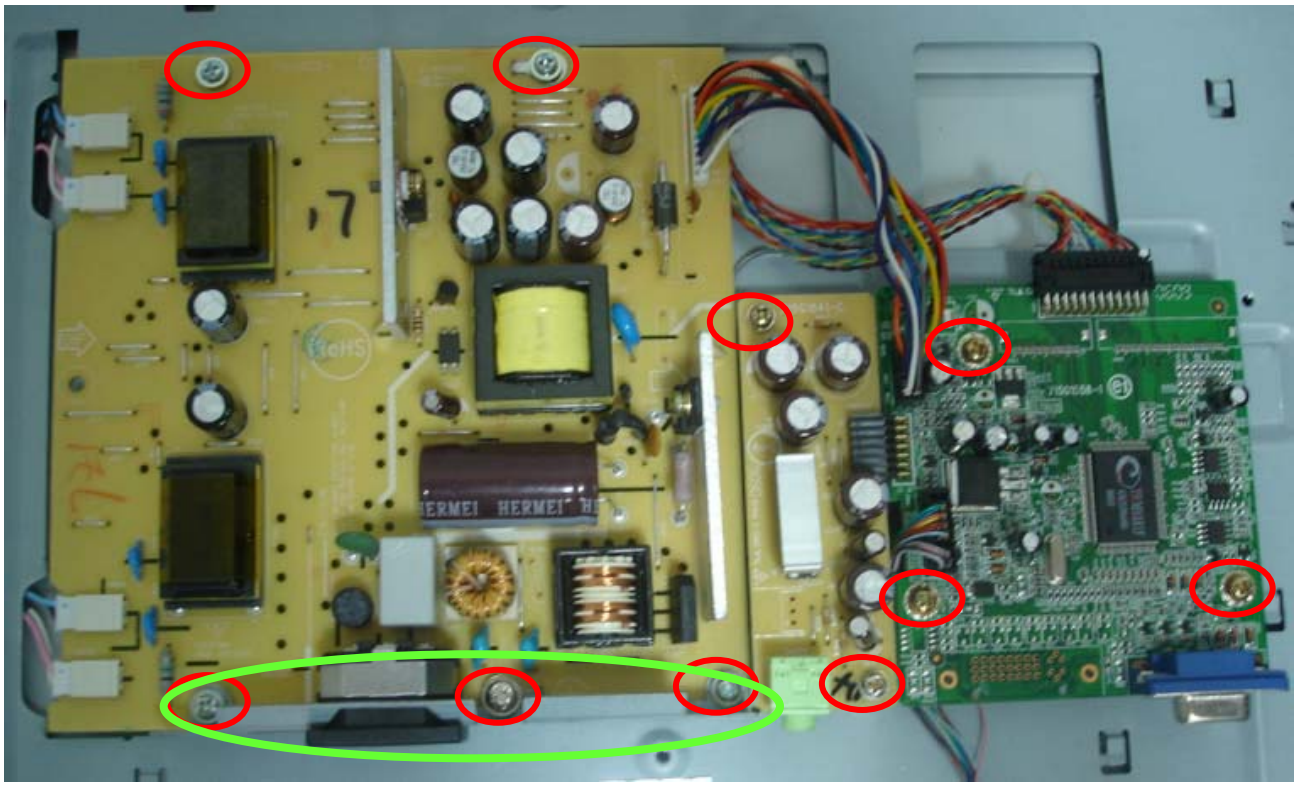


Fig (10)

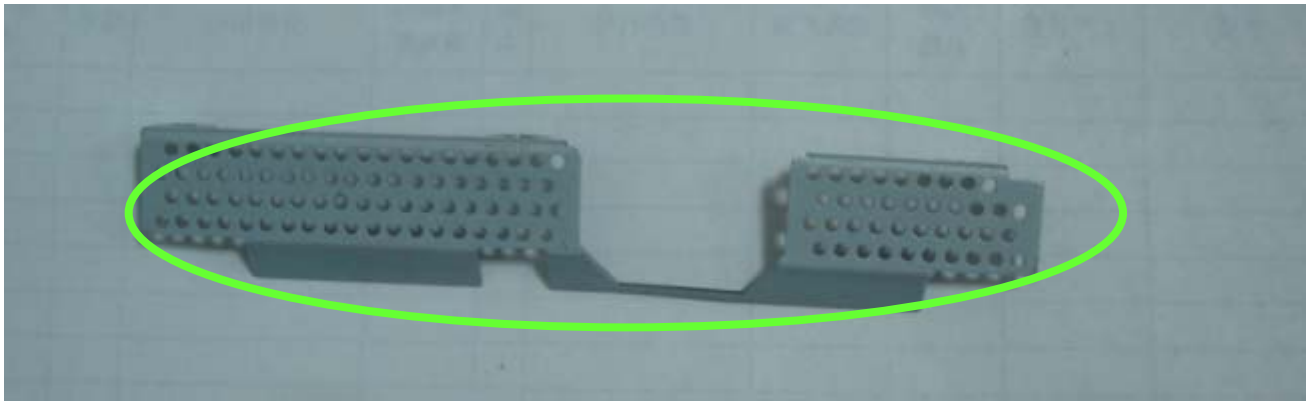


Fig (11)

5. Remove one screws mark in red to remove Key board. Fig (11-12)

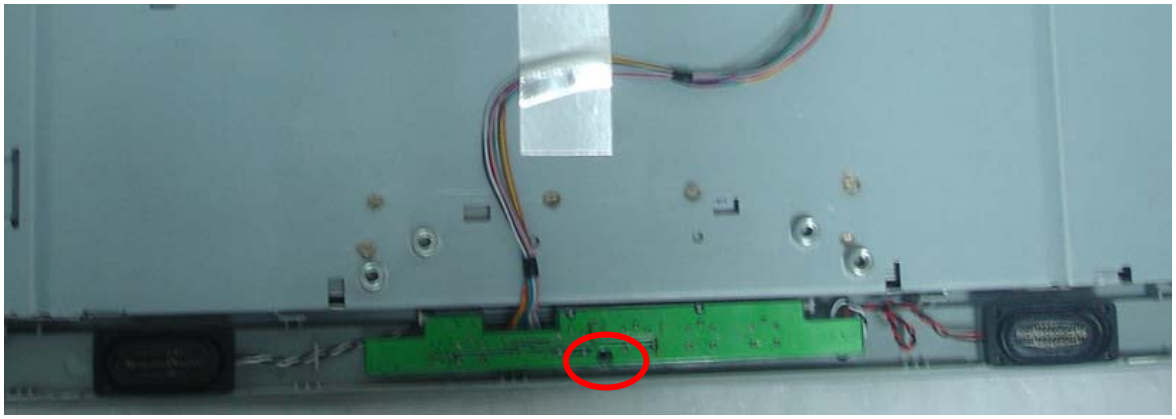


Fig (11)

Fig (12)

Disassemble the front cover (Fig 13)

1. Pay attention to some hooks, then open it with little force till the front cover and Panel frame separated.
2. The position marked with ellipse exists some hooks.

Fig (13)

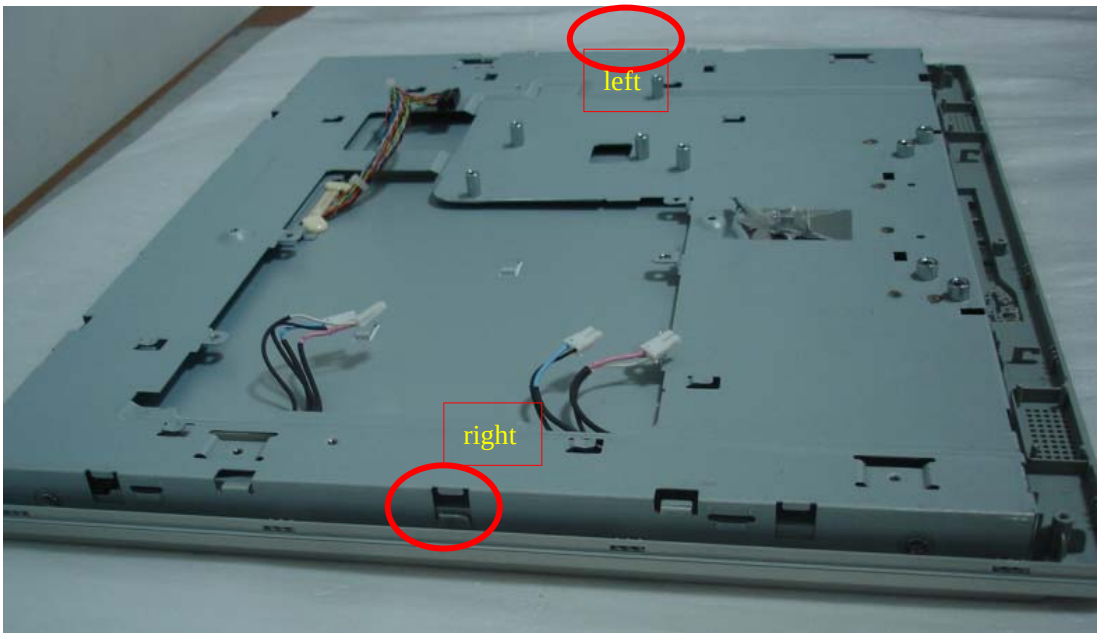


Fig (14)

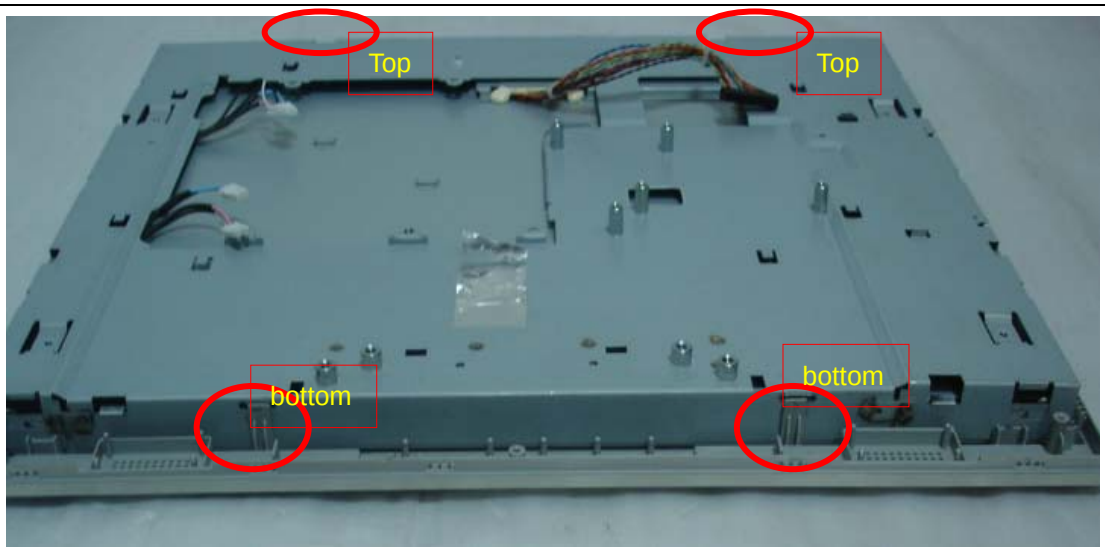


Fig (15)

Fig (16)

Fig (17)

Troubleshooting

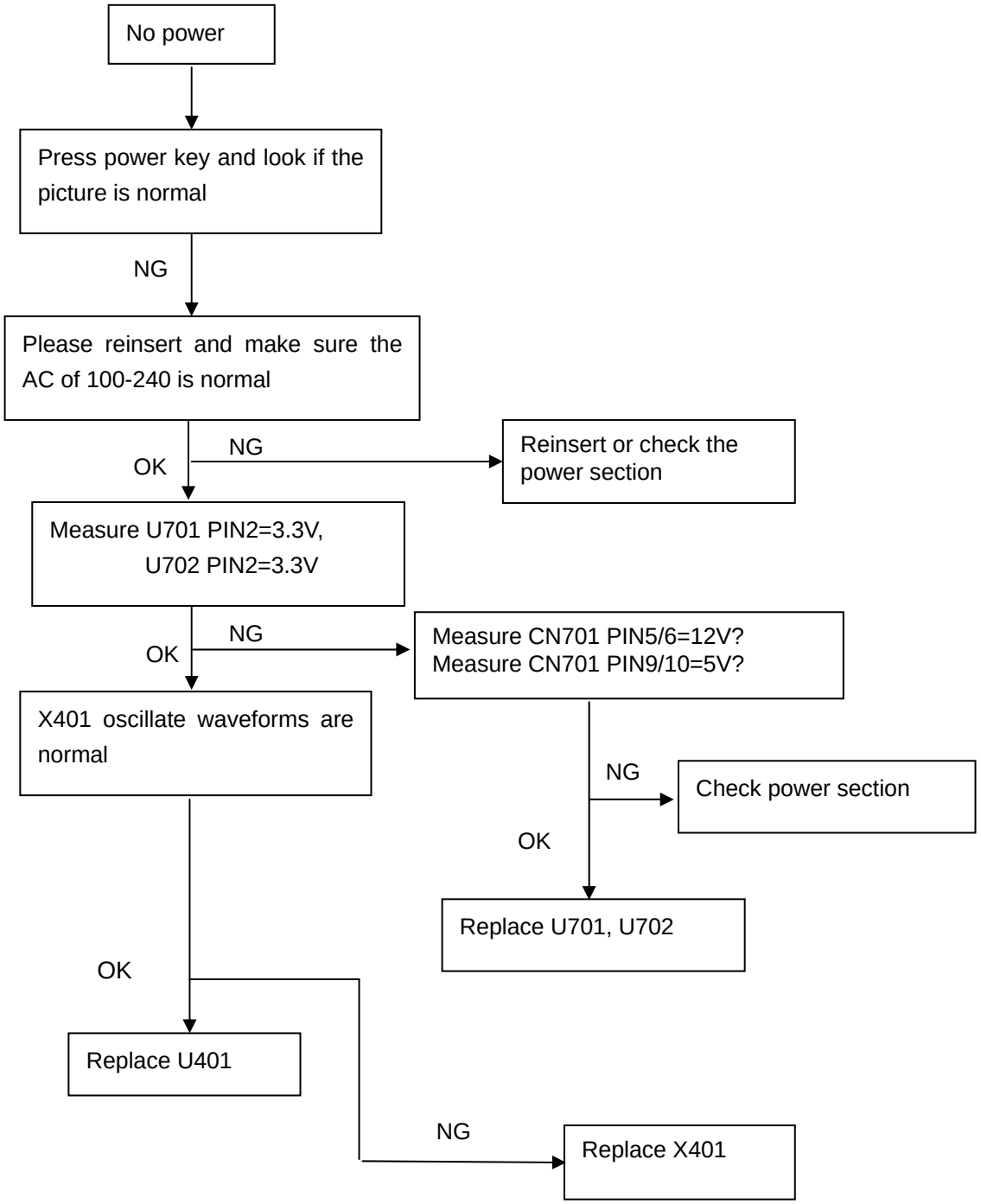
Chapter 4

This chapter provides troubleshooting information for the AL1517:

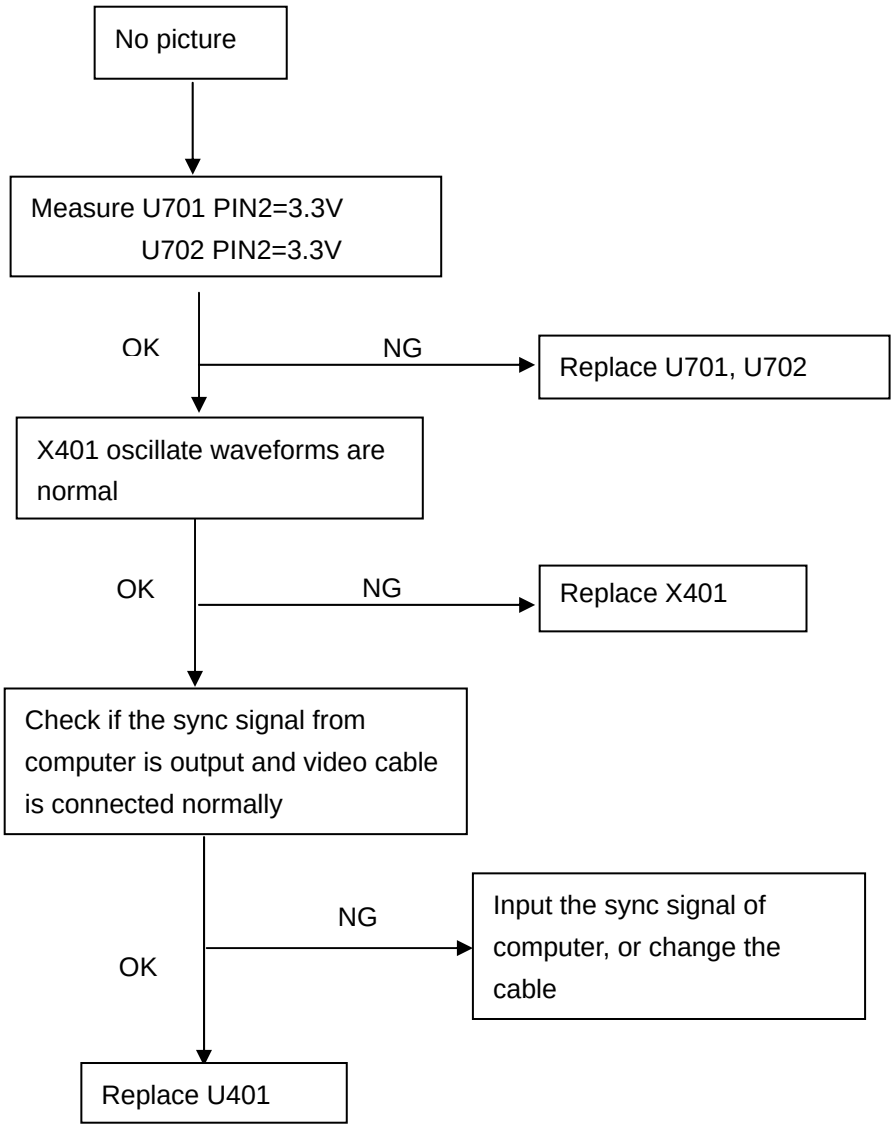
The way of assessing to the factory mode:

Main board

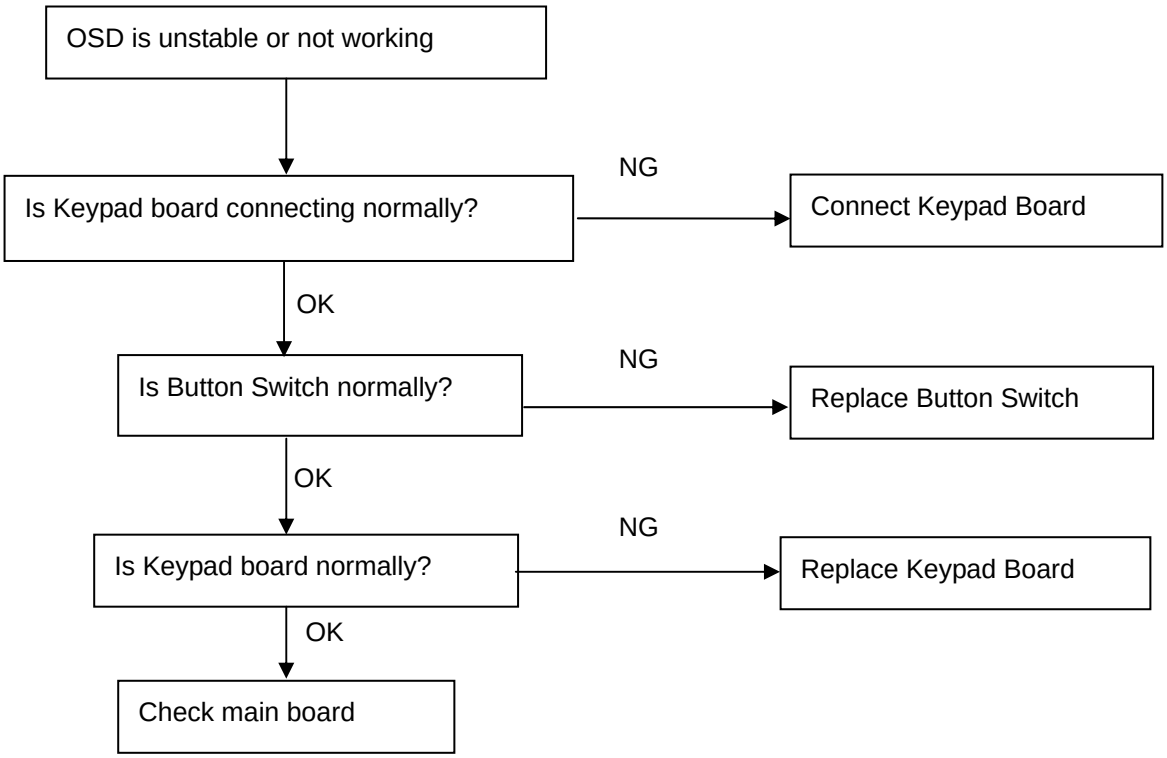
1. No power



2. No picture (LED is orange)

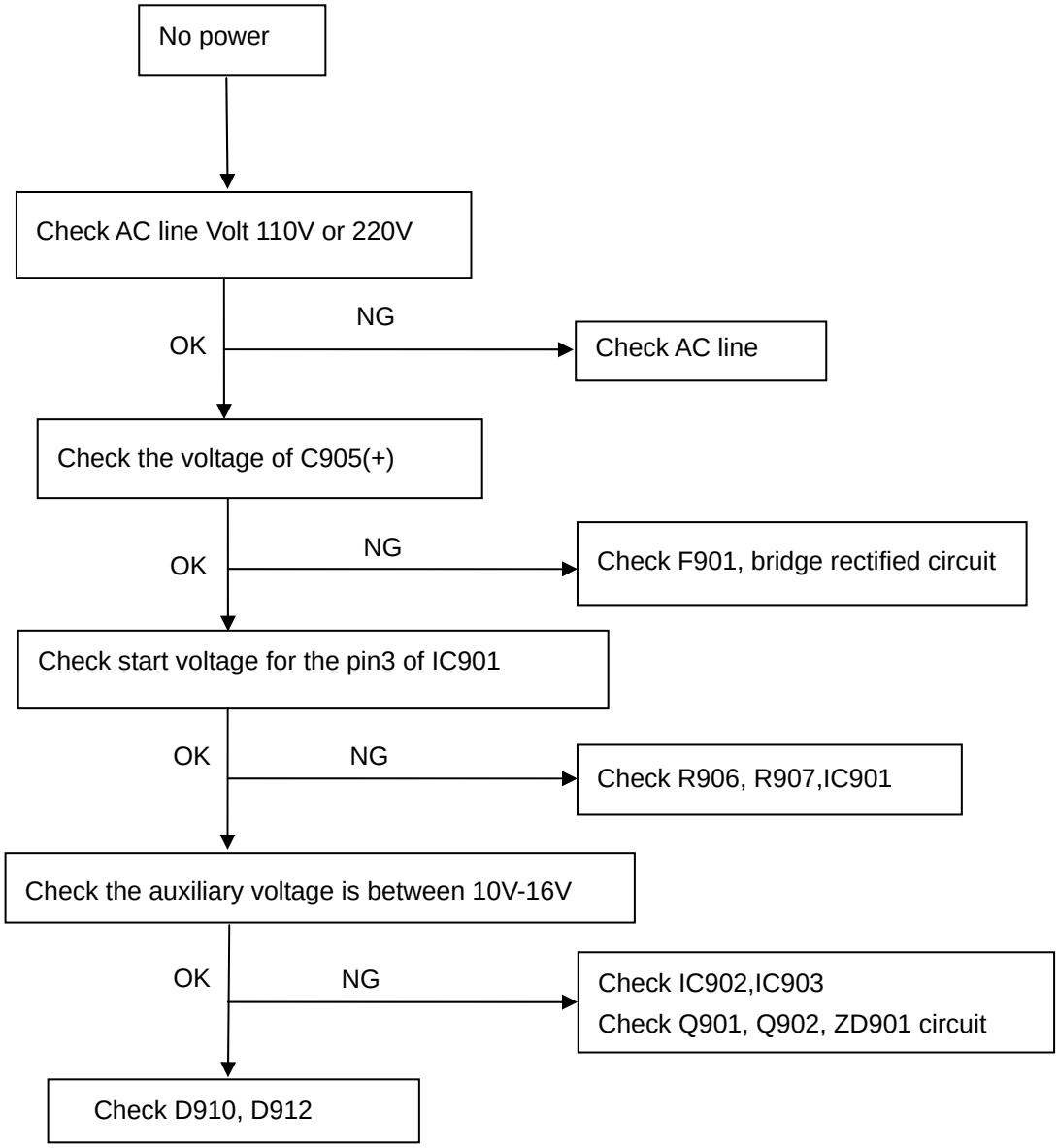


3. Keypad Board

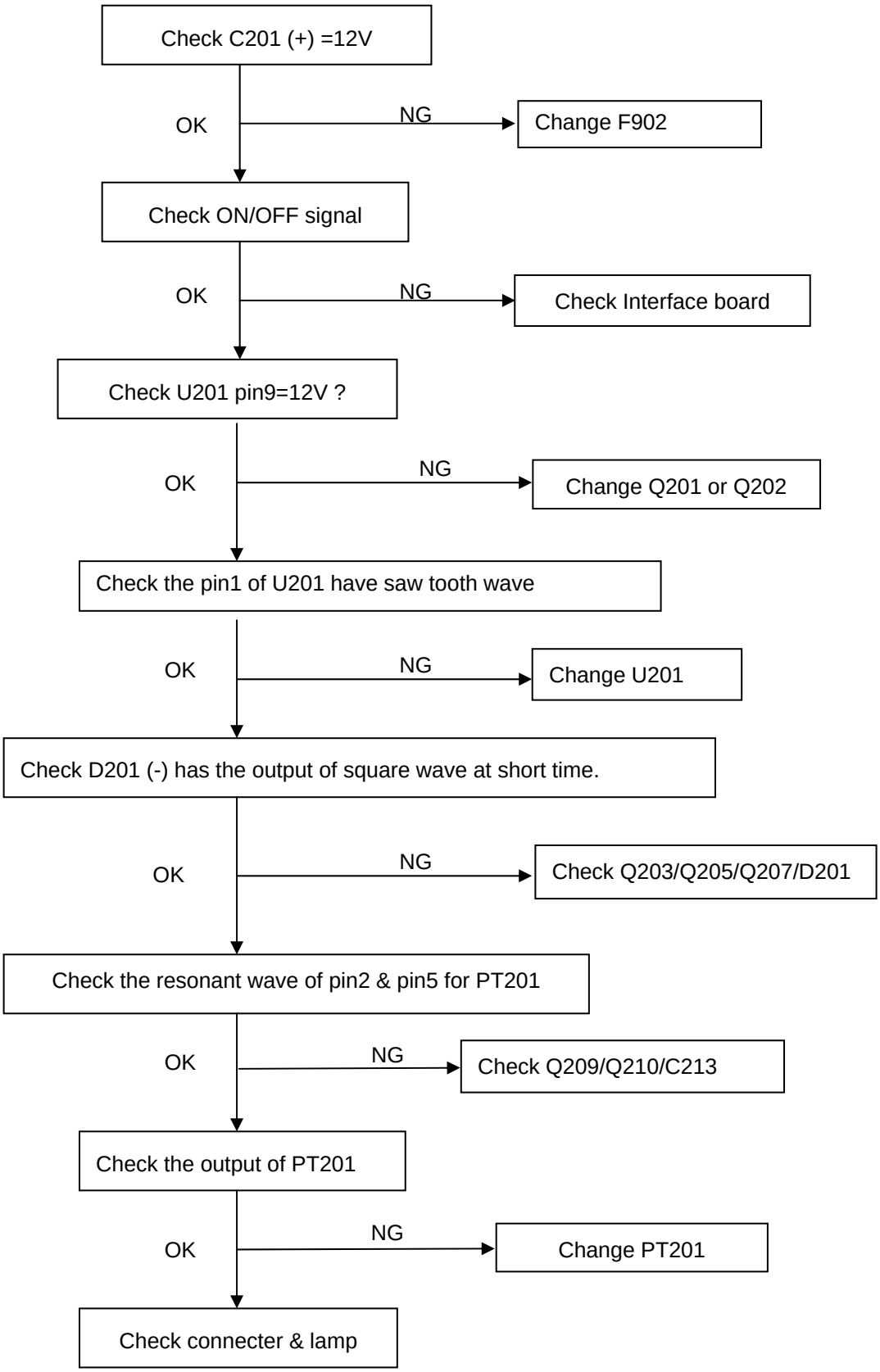


Power Board

4. No Power



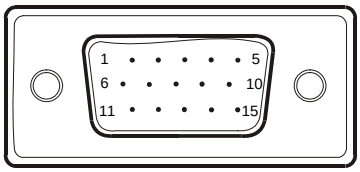
5. No Backlight



Connector Information

Chapter 5

The following figure shows the connector locations on the monitor board:



15 – Pin Color Display Signal Cable (D-sub)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1.	Red	9.	+5V
2.	Green	10.	Logic Ground
3.	Blue	11.	Monitor Ground
4.	Monitor Ground	12.	DDC-Serial Data
5.	DDC-return	13.	H-Sync
6.	R-Ground	14.	V-Sync
7.	G-Ground	15.	DDC-Serial Clock
8.	B-Ground		

FRU (Field Replaceable Unit) List

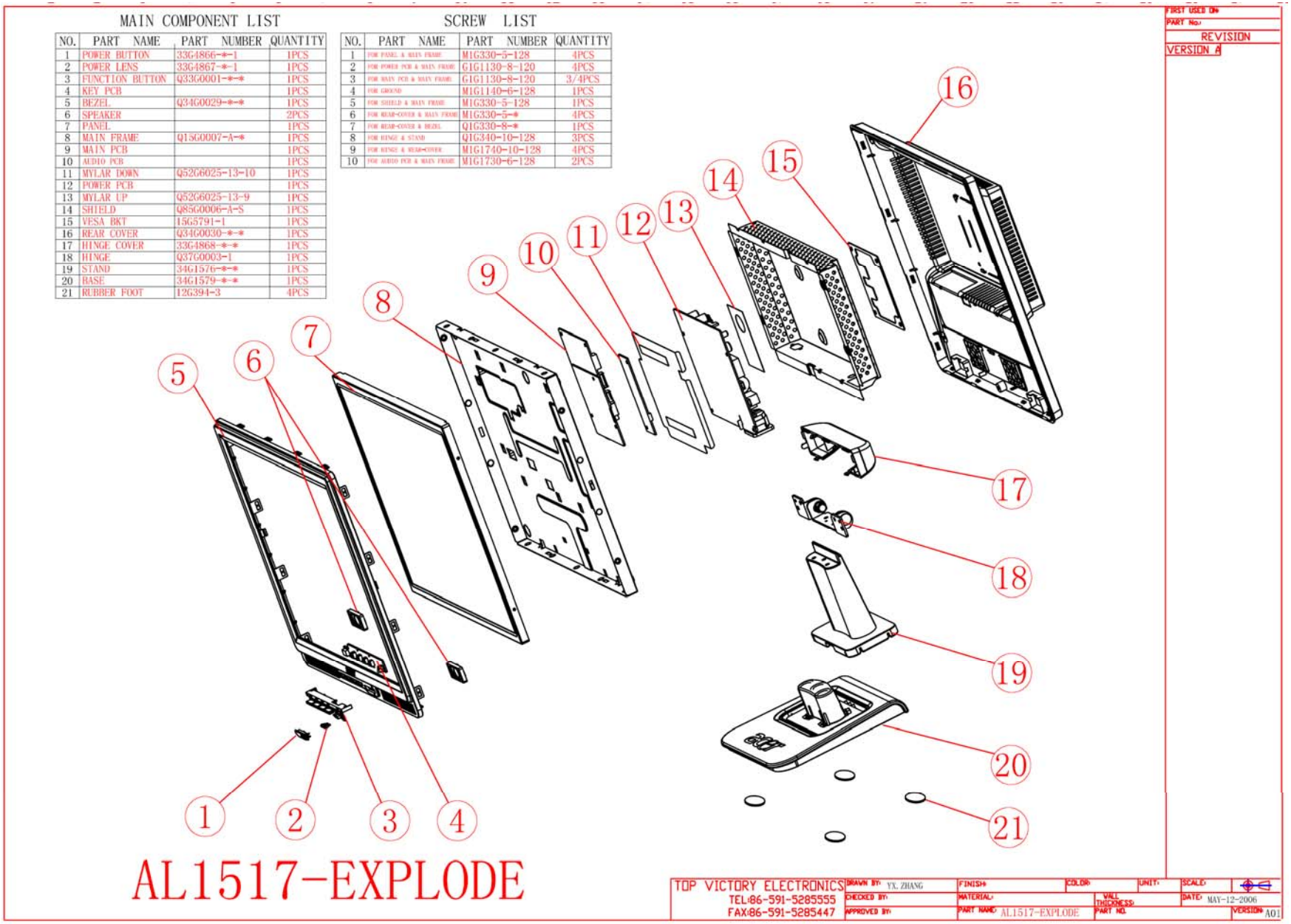
Chapter 6

This chapter gives you the FRU (Field Replaceable Unit) listing in global configurations of AL1517. Refer to this chapter whenever ordering for parts to repair or for RMA (Return Merchandise Authorization).

NOTE: Please note WHEN ORDERING FRU PARTS, that you should check the most up-to-date information available on your regional web or channel (http://aicsl.acer.com.tw/spl/). For whatever reasons a part number change is made, it will not be noted in the printed Service Guide. For ACER AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code from those given in the FRU list of this printed Service Guide. You MUST use the local FRU list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

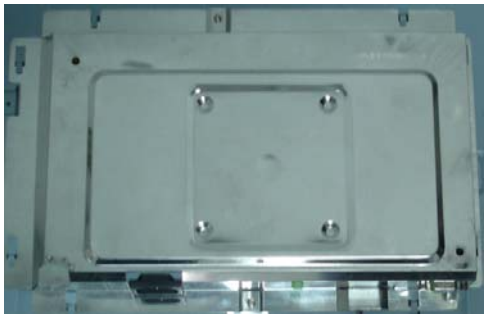
NOTE: To scrap or to return the defective parts, you should follow the local government ordinance or regulations on how to dispose it properly, or follow the rules set by your regional Acer office on how to return it.

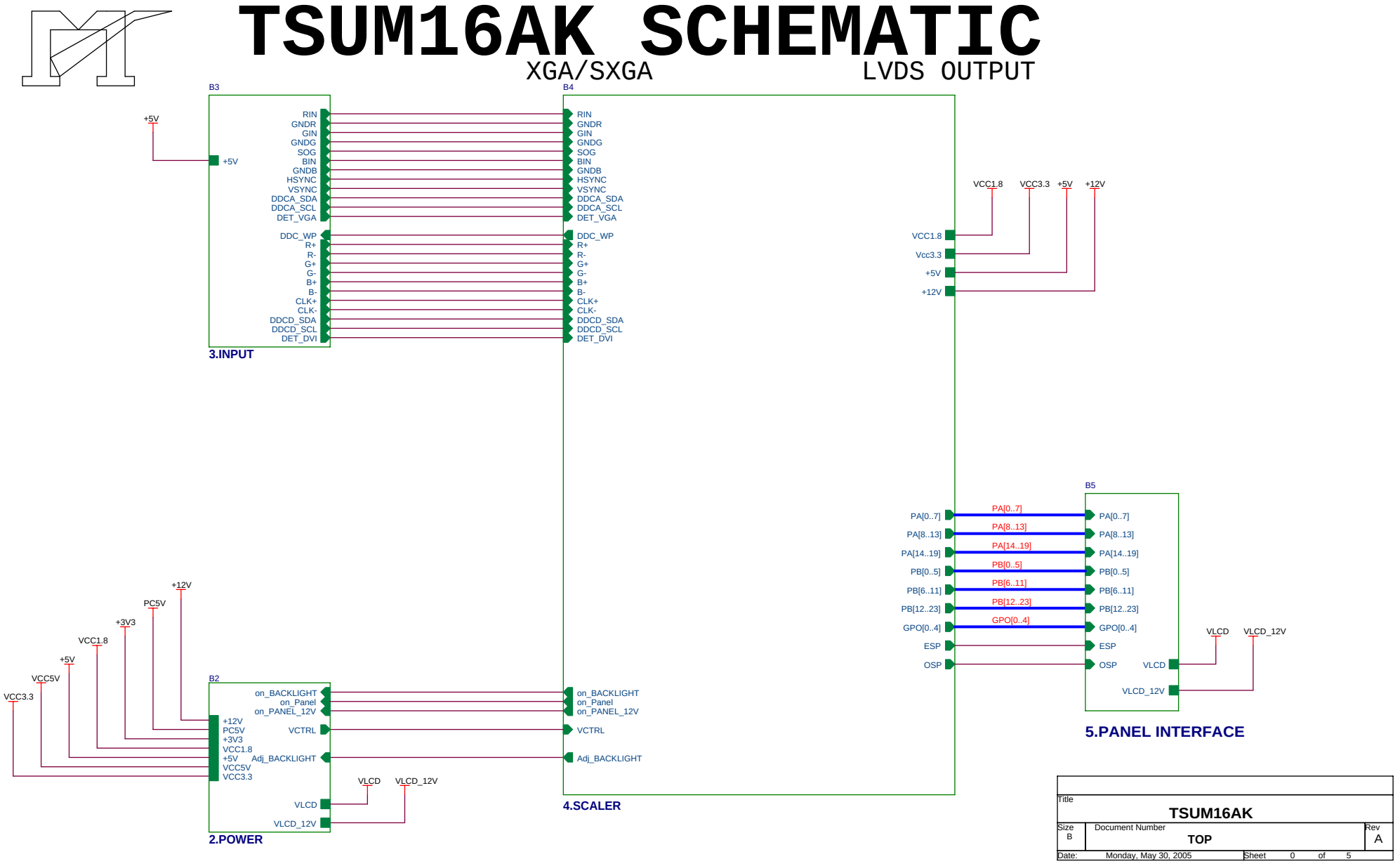
Exploded Diagram (Model: AL1517)



Part List

Above picture show the description of the following component.

Item	Picture	Description
1		Back Cover Q34G0030 RX 1B
2		Hinge Cover 033G4868 RX L
3		Bezel Q34G0029 QWA1B
4		Shield Q85G0006 A S


TSUM16AK SCHEMATIC
XGA/SXGA
LVDS OUTPUT
B3
+5V
RIN
GNDR
GIN
GNDG
SOG
BIN
GNDB
HSYNC
VSYNC
DDCA_SDA
DDCA_SCL
DET_VGA
DDC_WP
R+
R-
G+
G-
B+
B-
CLK+
CLK-
DDCD_SDA
DDCD_SCL
DET_DVI
3.INPUT
B4
4.SCALER
VCC1.8
Vcc3.3
+5V
+12V
B5
PA[0..7]
PA[8..13]
PA[14..19]
PB[0..5]
PB[6..11]
PB[12..23]
GPO[0..4]
ESP
OSP
VLCD
VLCD_12V
5.PANEL INTERFACE
B2
VCC3.3
VCC5V
VCC1.8
PC5V
+3V3
on_BACKLIGHT
on_Panel
on_PANEL_12V
VCTRL
Adj_BACKLIGHT
2.POWER
Title
TSUM16AK
Size
B
Document Number
TOP
Rev
A
Date:
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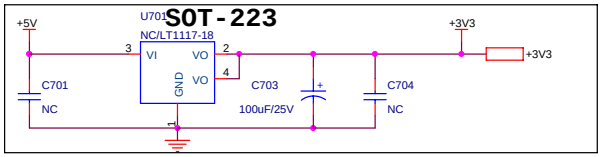
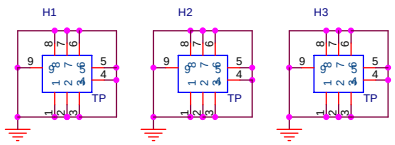
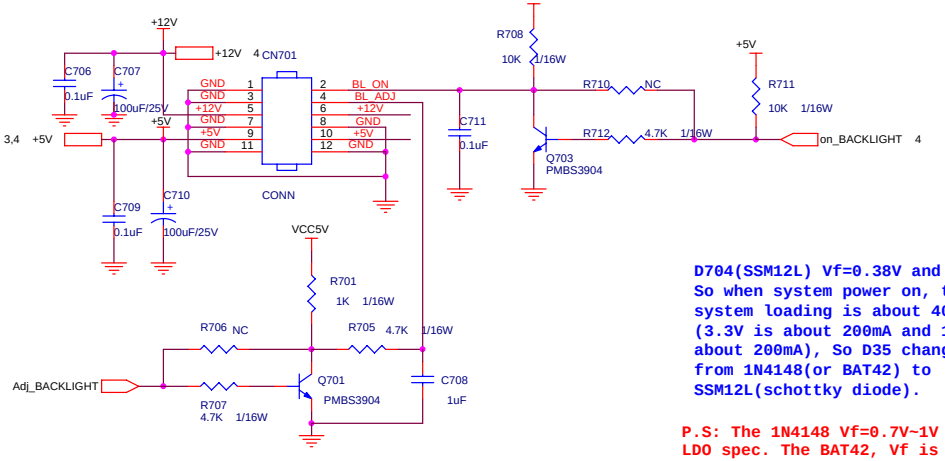
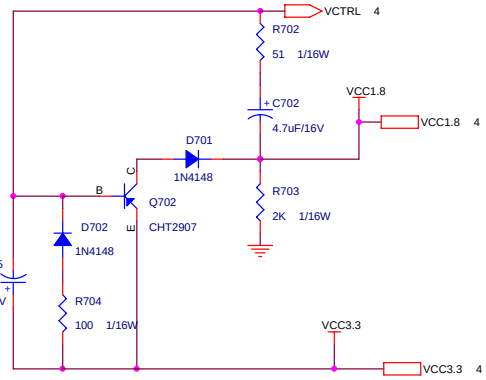


BL_ADJ(DC)	R31	C51	R32	R29	R33	Q4
0V ~ 3.3V	4.7K	1UF	0	X	X	X
0V ~ 5V	4.7K	1UF	X	1K	4.7K	MMBT3904

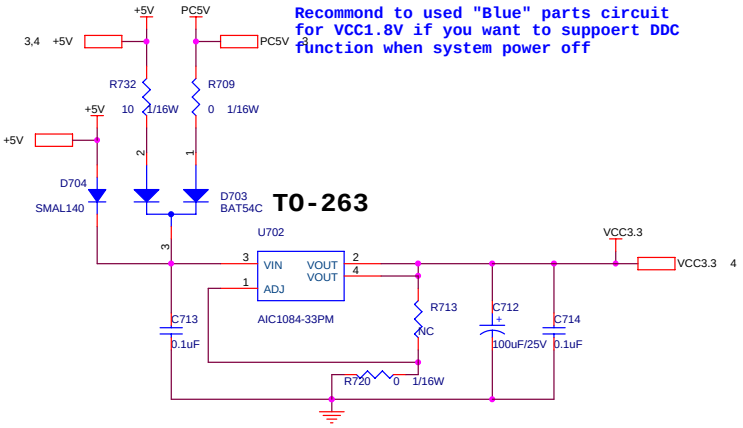
BL_ADJ	R31	C32
P W M	47	N.C
D C	4K7	1uF







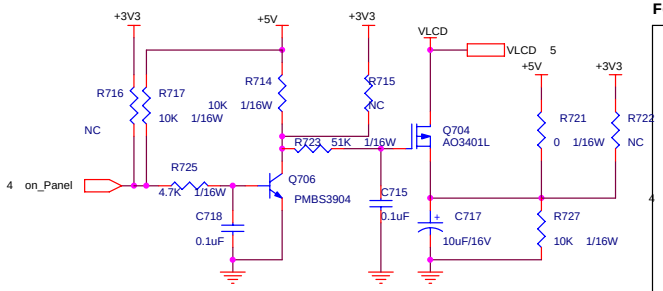
Recommond to used "Blue" parts circuit for VCC1.8V if you want to suppoert DDC function when system power off

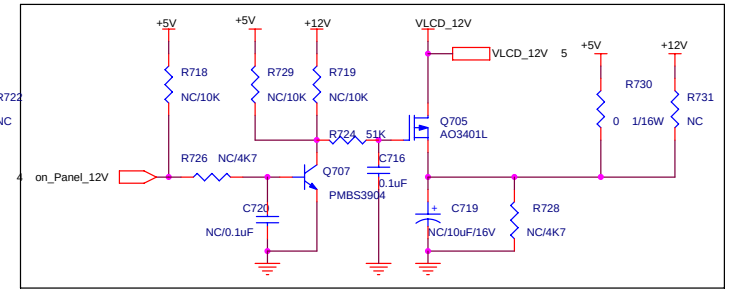


D704(SSM12L) Vf=0.38V and If=1A. So when system power on, the system loading is about 400mA (3.3V is about 200mA and 1.8V is about 200mA), So D35 changed from 1N4148(or BAT42) to SSM12L(schottky diode).

P.S: The 1N4148 Vf=0.7V~1V can't meet LDO spec. The BAT42, Vf is OK but the If=200mA(forward current) can not meet current spec.

For RSDS and Panel VCC=12V





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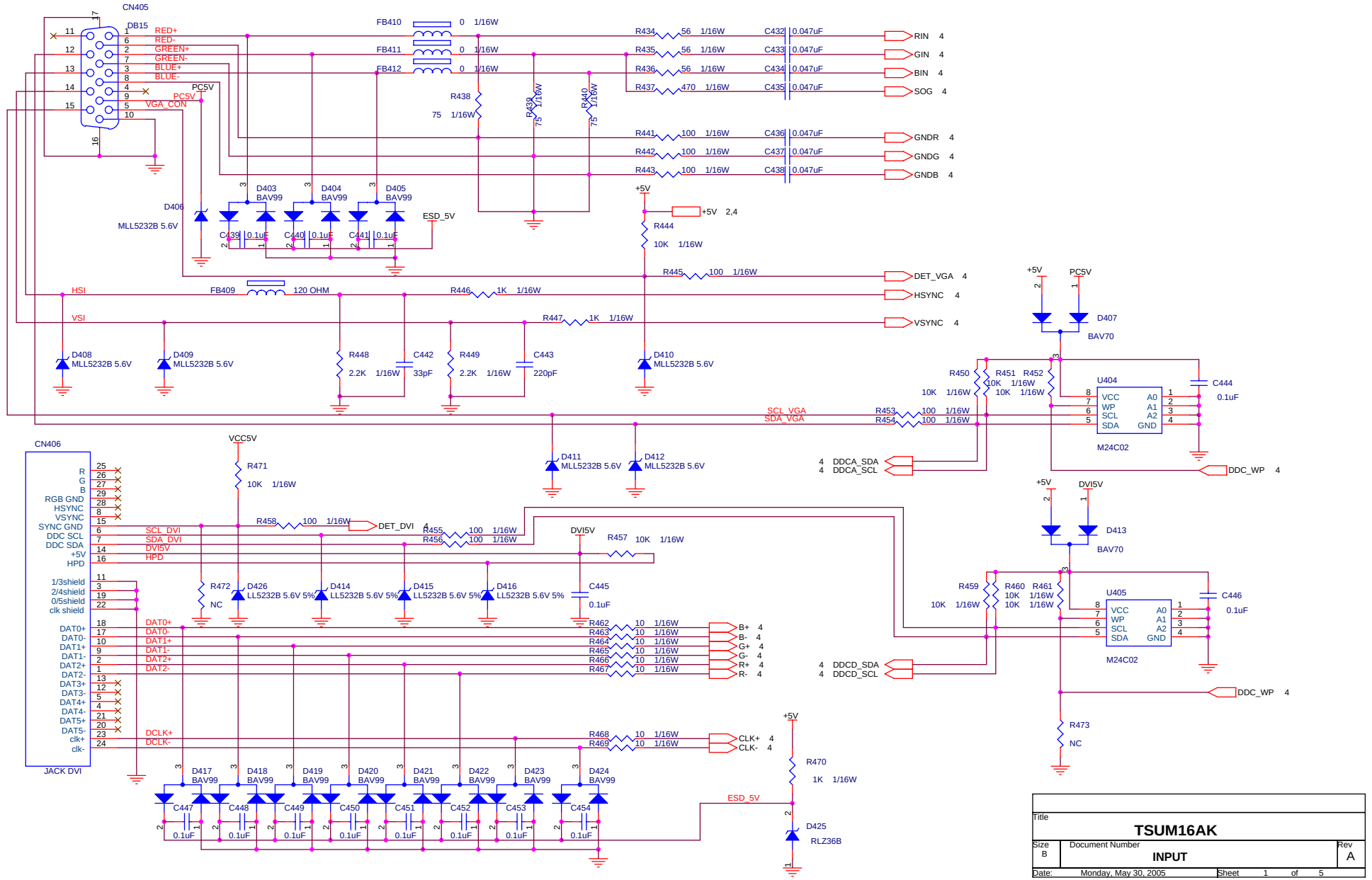
CN405
DB15
RED+
RED-
GREEN+
GREEN-
BLUE+
BLUE-
PC5V
VGA_CON
FB410
FB411
FB412
R434 56 1/16W
R435 56 1/16W
R436 56 1/16W
R437 470 1/16W
C432 0.047uF
C433 0.047uF
C434 0.047uF
C435 0.047uF
RIN 4
GIN 4
BIN 4
SOG 4
R438 75 1/16W
R439 75 1/16W
R440 75 1/16W
R441 100 1/16W
R442 100 1/16W
R443 100 1/16W
C436 0.047uF
C437 0.047uF
C438 0.047uF
GNDR 4
GNDG 4
GNDB 4
D403 BAV99
D404 BAV99
D405 BAV99
D406
MLL5232B 5.6V
ESD_5V
C439 0.1uF
C440 0.1uF
C441 0.1uF
+5V
+5V 2,4
R444 10K 1/16W
R445 100 1/16W
DET_VGA 4
HSI
VSI
FB409 120 OHM
R446 1K 1/16W
R447 1K 1/16W
HSYNC 4
VSYNC 4
D408 MLL5232B 5.6V
D409 MLL5232B 5.6V
R448 2.2K 1/16W
C442 33pF
R449 2.2K 1/16W
C443 220pF
D410 MLL5232B 5.6V
SCL_VGA
SDA_VGA
R453 100 1/16W
R454 100 1/16W
4 DDCA_SDA
4 DDCA_SCL
+5V
PC5V
D407
BAV70
R450 10K 1/16W
R451 10K 1/16W
R452 10K 1/16W
U404
VCC
WP
SCL
SDA
A0
A1
A2
GND
M24C02
C444 0.1uF
DDC_WP 4
CN406
R
G
B
RGB GND
HSYNC
VSYNC
SYNC GND
DDC SCL
DDC SDA
+5V
HPD
1/3shield
2/4shield
0/5shield
clk shield
JACK DVI
VCC5V
R471 10K 1/16W
D411 MLL5232B 5.6V
D412 MLL5232B 5.6V
R458 100 1/16W
DET_DVI 4
R455 100 1/16W
R456 100 1/16W
DVI5V
R457 10K 1/16W
SCL_DVI
SDA_DVI
DVI5V
HPD
R472 NC
D426 LL5232B 5.6V 5%
D414 LL5232B 5.6V 5%
D415 LL5232B 5.6V 5%
D416 LL5232B 5.6V 5%
C445 0.1uF
DAT0+
DAT0-
DAT1+
DAT1-
DAT2+
DAT2-
DAT3+
DAT3-
DAT4+
DAT4-
DAT5+
DAT5-
clk+
clk-
DCLK+
DCLK-
R462 10 1/16W
R463 10 1/16W
R464 10 1/16W
R465 10 1/16W
R466 10 1/16W
R467 10 1/16W
R468 10 1/16W
R469 10 1/16W
B+ 4
B- 4
G+ 4
G- 4
R+ 4
R- 4
CLK+ 4
CLK- 4
4 DDCD_SDA
4 DDCD_SCL
+5V
DVI5V
D413
BAV70
R459 10K 1/16W
R460 10K 1/16W
R461 10K 1/16W
U405
M24C02
C446 0.1uF
DDC_WP 4
R473 NC
D417 BAV99
D418 BAV99
D419 BAV99
D420 BAV99
D421 BAV99
D422 BAV99
D423 BAV99
D424 BAV99
C447 0.1uF
C448 0.1uF
C449 0.1uF
C450 0.1uF
C451 0.1uF
C452 0.1uF
C453 0.1uF
C454 0.1uF
ESD_5V
R470 1K 1/16W
D425 RLZ36B
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TSUM16AK
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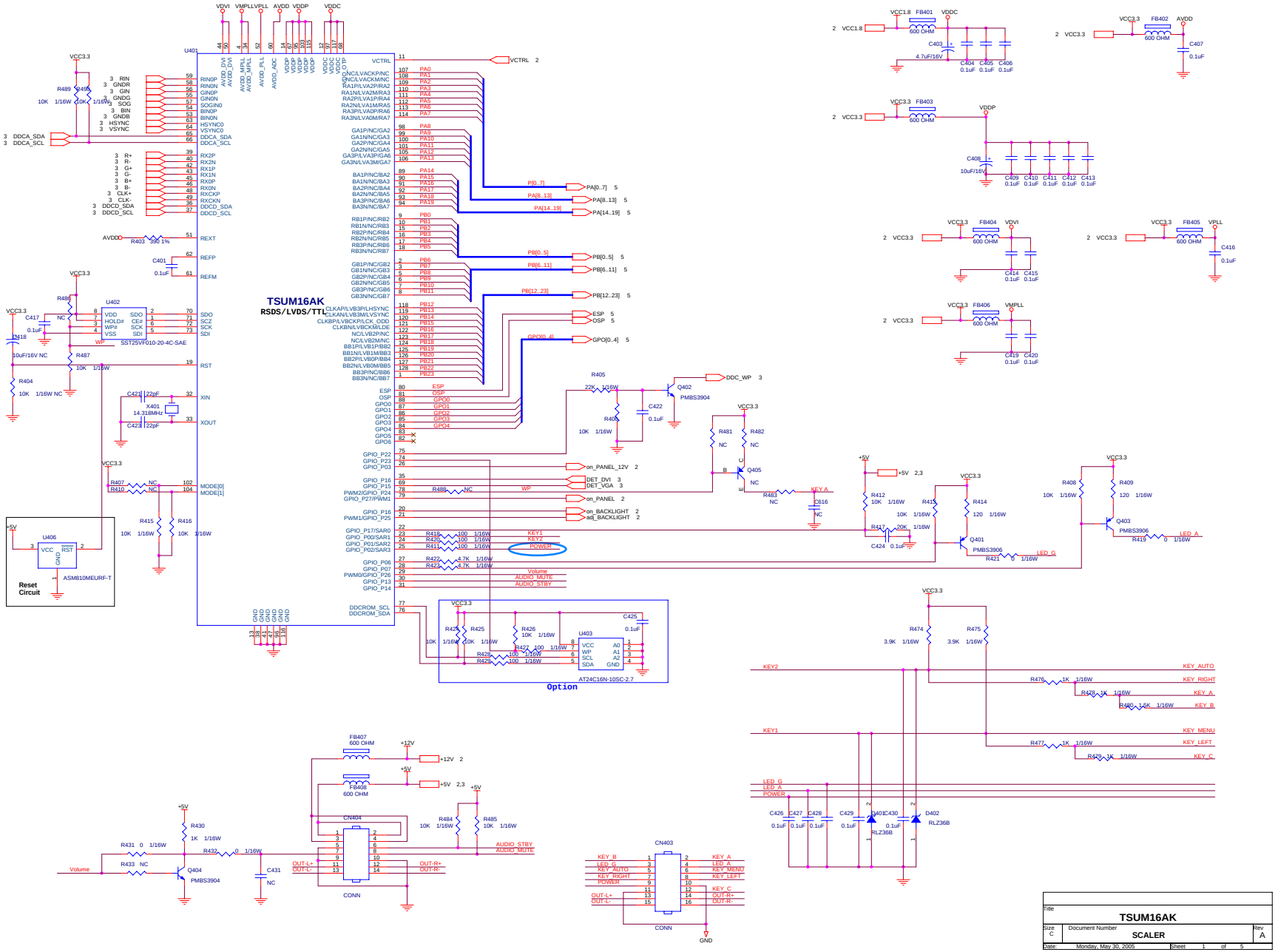
TSUM16AK
RSDS/LVDS/TTL
U401
U402
SST25VF010-20-4C-SAE
X401
14.318MHz
U406
ASM810MEURF-T
Reset Circuit
U403
AT24C16N-10SC-2.7
Option
Q402
PMBS3904
Q405
Q404
Q401
Q403
CN404
CN403
CONN
D401
D402
RLZ36B
VCC3.3
VDDC
AVDD
VDDP
VMPLL
VPLL
VDVI
+5V
+12V
GND
Volume
AUDIO_MUTE
AUDIO_STBY
KEY1
KEY2
POWER
LED_G
LED_A
KEY_AUTO
KEY_RIGHT
KEY_A
KEY_B
KEY_MENU
KEY_LEFT
KEY_C
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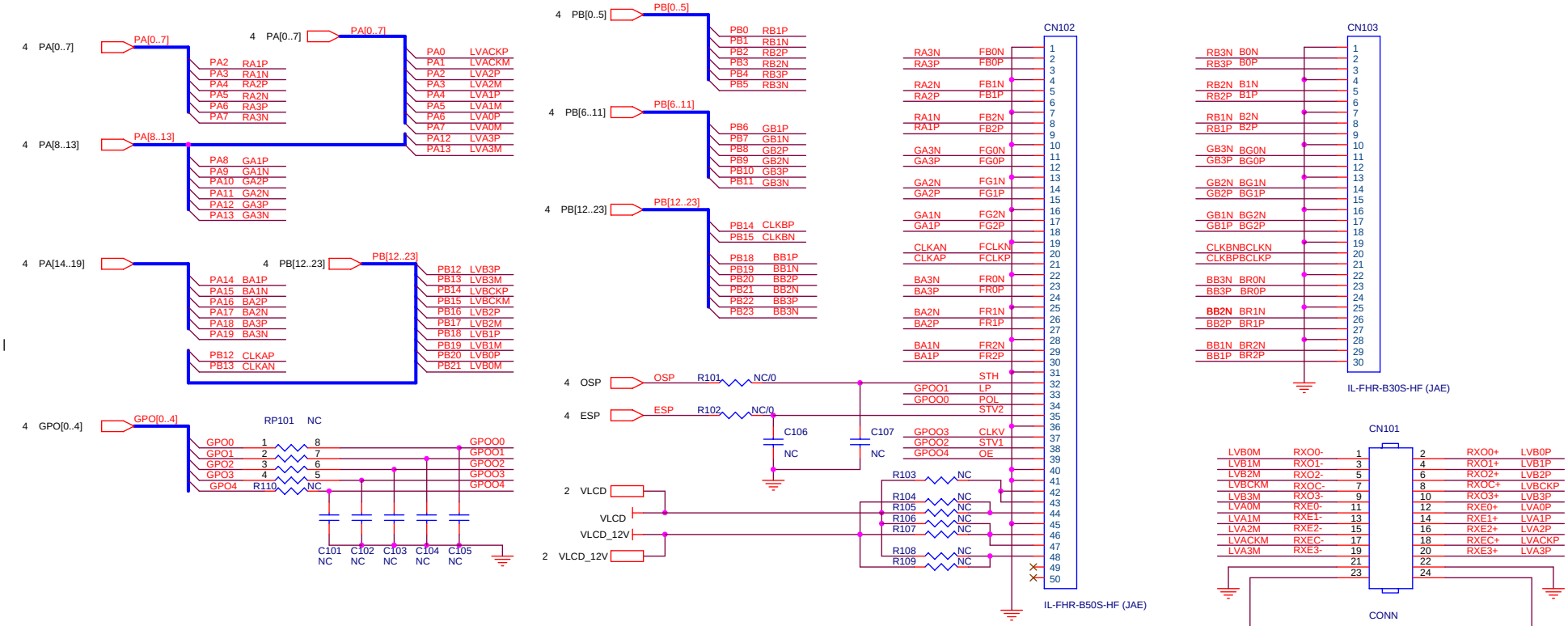

	CN7	CN8	CN9	RP1	R88	R89	R91	Table 1
LVDS Panel	X	X	V	X	X	X	X	X
RSDS Panel	V	V	X	V	V	V	V	V

Table 1	R90	R92	R93	R94	R95	R96	R97
AU 17	NC	NC	5V 0R	5V 0R	NC	5V 0R	NC
QDI 17 CPT 17	3.3V 0R	12V 0R	NC	NC	12V 0R	NC	12V 0R
INNOLUX 15	3.3V 0R	NC	3.3V 0R	NC	NC	NC	NC
HannStar 15 CPT 15	3.3V 0R	NC	3.3V 0R	NC	12V 0R	NC	NC
LG 15	3.3V 0R	NC	3.3V 0R	NC	NC	NC	NC
Innolux 17"	NC	NC	3.3V 0R	3.3V 0R	NC	3.3V 0R	NC

Title	TSUM16AK		
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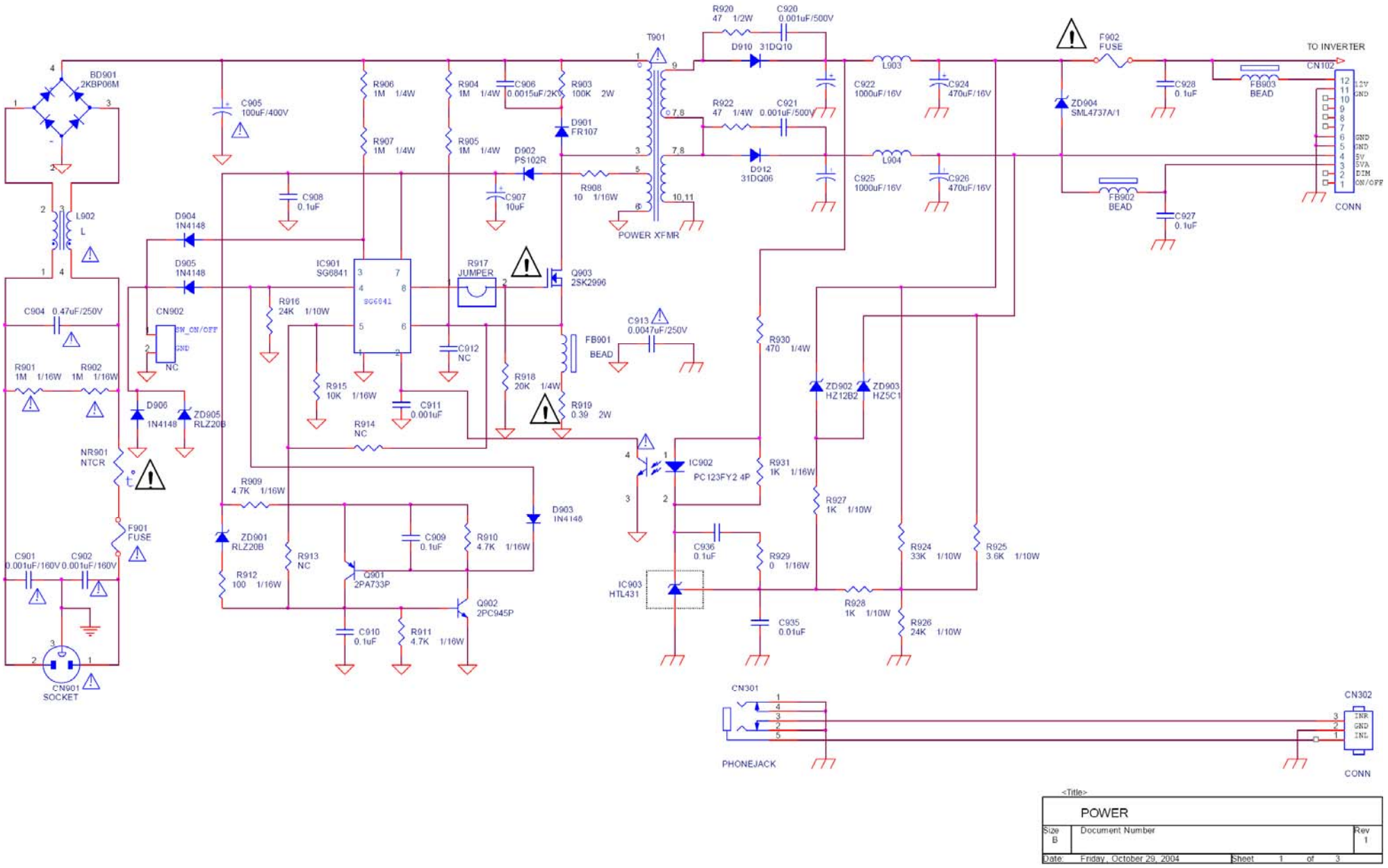
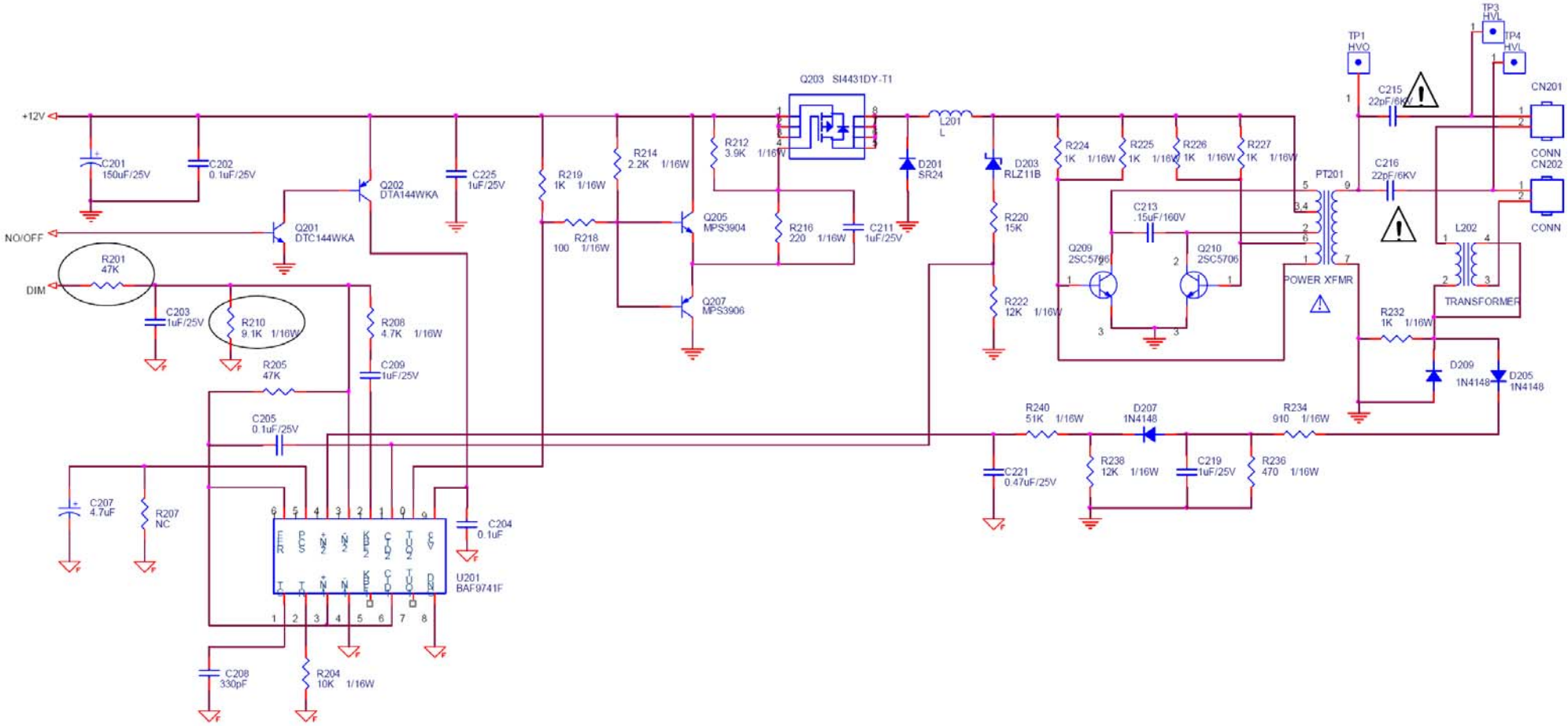
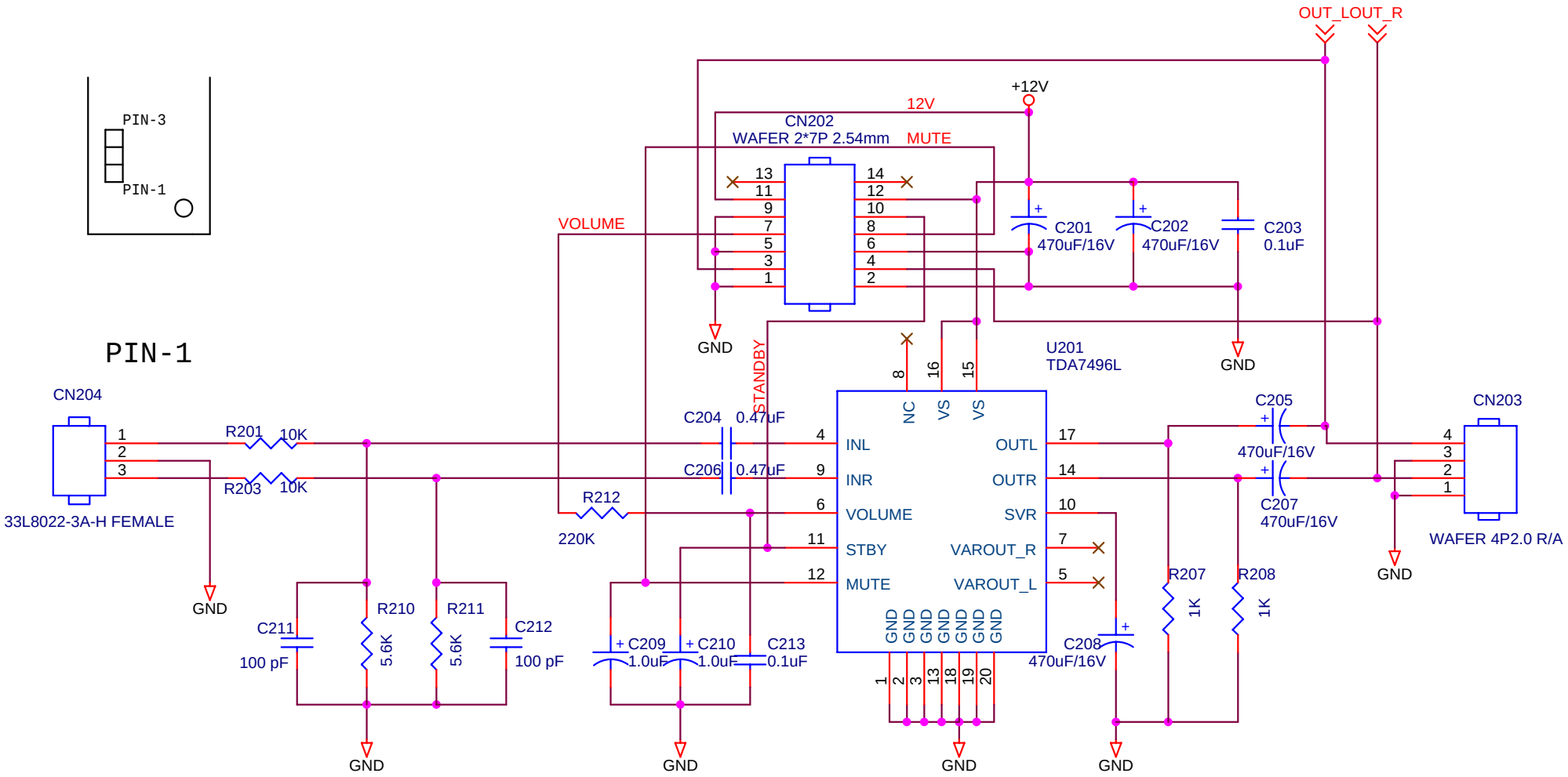
Power board (adapter + inverter)




+12V
NO/OFF
DIM
C201 150uF/25V
C202 0.1uF/25V
Q202 DTA144WKA
Q201 DTC144WKA
C225 1uF/25V
R201 47K
C203 1uF/25V
R210 9.1K 1/16W
R208 4.7K 1/16W
C209 1uF/25V
R205 47K
C205 0.1uF/25V
C207 4.7uF
R207 NC
C204 0.1uF
U201 BAF9741F
C208 330pF
R204 10K 1/16W
R219 1K 1/16W
R214 2.2K 1/16W
R218 100 1/16W
Q205 MPS3904
Q207 MPS3906
R212 3.9K 1/16W
R216 220 1/16W
C211 1uF/25V
Q203 SI4431DY-T1
D201 SR24
L201 L
D203 RLZ11B
R220 15K
R222 12K 1/16W
R224 1K 1/16W
R225 1K 1/16W
R226 1K 1/16W
R227 1K 1/16W
C213 .15uF/160V
Q209 2SC5706
Q210 2SC5706
PT201
POWER XFMR
TP1 HVO
TP3 HVL
TP4 HVL
C215 22pF/6KV
C216 22pF/6KV
CN201
CONN CN202
CONN
L202
TRANSFORMER
R232 1K 1/16W
D209 1N4148
D205 1N4148
R240 51K 1/16W
D207 1N4148
R234 910 1/16W
C221 0.47uF/25V
R238 12K 1/16W
C219 1uF/25V
R236 470 1/16W

Audio board


PIN-3
PIN-1
PIN-1
OUT_LOUT_R
+12V
12V
CN202
WAFER 2*7P 2.54mm
MUTE
VOLUME
C201
470uF/16V
C202
470uF/16V
C203
0.1uF
GND
STANDBY
U201
TDA7496L
NC
VS
VS
INL
INR
VOLUME
STBY
MUTE
OUTL
OUTR
SVR
VAROUT_R
VAROUT_L
GND
CN204
33L8022-3A-H FEMALE
R201 10K
R203 10K
C204 0.47uF
C206 0.47uF
R212
220K
C205
470uF/16V
C207
470uF/16V
CN203
WAFER 4P2.0 R/A
R207 1K
R208 1K
C208
470uF/16V
C211
100 pF
R210 5.6K
R211 5.6K
C212
100 pF
C209 1.0uF
C210 1.0uF
C213 0.1uF